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bulletin

DEPARTMENT OF AGRICULTURE,
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CROP ZONES OF GUJARAT

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LIST OF ABBREVIATIONS.

B.K.	..	Banaskantha
C.V.	..	Coefficient of Variation
Dec/Decr	..	December
e	..	east
e-w	..	east to west
Feb.	..	February
G	..	Gujarat
GSA	..	Gross Cropped Area
GSA	..	Gross Sown Area
Jan/Janu	..	January
KM	..	Kilometer
Maxi. temp.	..	Maximum Temperature
Mini. temp	..	Minimum Temperature
N/n	..	north
Nov./Novr.	..	November
NSA	..	Net Sown Area
Octo/Octr	..	October
P.C. of R.H	..	Percentage of relative humidity.
P.C. of S & H & Temp.in C.	..	Percentage of sowing and harvesting and temperature in centigrade
P.M/Pmls.	..	Panchmahals (P M)
R.F.in m.m.	..	Rainfall in millimeter
S	..	South
Sept.	..	September September
Srt.	..	Surat
w	..	West.

100	
97	
24.2.8	
24.2.8	

VIII

Errata

Page	Para NO.	Line	Printed	Read
6				
1	2	3	4	5
1	1	3	Kutch having	Kutch, having
1	1	7	Some times,	Some times
1	1	8	part of the	part, the
1	1	9	districts	seven districts
1	1	11	region.)	region.
1	1	15	Bombay State, constitute	Bombay State now constitute
1	3	3	bay	gulf
2	1	5	PM	Panchmahals
2	1	5	Bharooch	Bharuch
2	2	3	months and	months, and
2	2	9	(Table-1).	(Table-1 b).
2	2	21	spells when	spells, when
2	2	26	problem	problems
3	1	14	purposes. Possibility	purposes, possibility
3	1	20	renewed	reviewed
3	2	5	it	its
5	5	7	percentage	percentages
5	5	8	criterion	criteria
5	5	9	period	periods.
5	5	20	stagered	staggered
6	1	6	are of irrigated	are irrigated.
6	1	9	conditions at	conditions pre- vailing at
6	4	5	second picking	last picking
6	4	8	table 4.2A,	table 1.of and 4.2A,
6	4	10	second	last
7	1	5	(Table 1.0)	(Table 1.of)
10	1	4	has	is
10	4	12	GSA	NSA
11	2	19	bay	gulf
11	3	2	situated with	situated, with
11	3	4	Bharooch	Bharuch

IX

/ 2 /

1	2	3	4	5
12	3	1	has	have
12	3	3	Bharooch	Bharuch
13	6	1	is a	are
14	3	1	Condition	Conditions
14	3	1	extends	extend
14	3	12	zone II	zone X
14	4	4	of	or
15	2	9	khakharii	Khakharia
15	3	3	residual	residual
16	2	3	bay	gulf
16	6	2	bay	gulf
17	2	1	bay	gulf
17	3	18	and	wheat and
19	5	1	bay	gulf
19	5	2	bay	gulf
19	5	3	Bharooch	Bharuch
20	1	2	bay	gulf
20	1	3	bay	gulf
20	4	5	Bharooch-Amod	Bharuch-Amod
20	5	4	Bharooch	Bharuch
21	2	4	are	are
21	2	4	correlations	conditions
24	1	3	possible	possibly
24	1	9	growing	growing
			Littoral	Littoral
Maps	-			Map 1 page I

Map 3 page III zone-VII :

Different signs are given on the map showing zone VII; both the parts are to be covered under one type of sign; treating it as one single zone.

Graphs.

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to
A.6

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Crop zones of Gujarat

By

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Gujarat state is divided into nineteen districts, and 184 talukas. They vary greatly in size. The largest is the Kutch district, with the Rann of Kutch having 23 % of the state's total geographical area. At the other extreme, the Dangs district, is less than a percent of the state's area. The state's capital is located in Gandhinagar district, which was carved out from the districts of Mehsana, Sabarkantha and Ahmedabad. Some times, the state is considered to have two administrative divisions, the western part of the peninsular region and Kutch with 1 districts and the eastern region with eleven districts. The Meteorology Department, Government of India refers to eastern region as the Gujarat region and the western as Saurashtra and Kutch region.) Most parts of the peninsula excluding parts of Amreli district was the state of Saurashtra; likewise Kutch was also a separate state until 1960, when, these along with the eastern part, and the Amreli district formerly of the old Bombaystate, constitute Gujarat state.

Geographically, Gujarat is far away from real tropics. The southern border is at 20° 40' N latitude and the northern border 24° 55' degree N, is even beyond the tropic of cancer. The latter passes through the districts of Kutch, northern tips of Surendranagar and Ahmedabad and through the districts of Mehsana and Sabarkantha. In many parts of the world, great deserts are located on this latitude. So also in Gujarat, the great rann of Kutch, and parts of Banaskantha in north have conditions akin to desert. The rann which is about 300 kms e-w, and half that wide, has its northern boundary along the Indo-Pakistan frontier merging in the desert of Thar in Pakistan.

The Saurashtra and Kutch region is connected with the large fertile alluvial plain of the main land Gujarat, by a narrow flat belt, extending from the bay of Cambay to the little rann of Kutch. This large alluvial plain extends from B.K. in north to Valsad in south. On the east of the great plain, starting from the northern border of the state in B.K., is the hilly stretch along the entire eastern border of the state. The main mountain ranges in this belt are the Arasur of Arvalli system, the Vindhyas and the Sahyadri at the southern end. The altitude of Arvallis in Banaskantha district at a few places is little over 900 m. In the taluka of Dhanera of the same district, and further north wards, adjoining Rajasthan territory, these mountains appear as straggling hills, forming

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rugged country with hardly an altitude of 100 meters. In this area the elevation being low, the Arvalli system does not offer sufficient obstruction to south west monsoon for inducing precipitation, thus making the area drought prone. An elevation of 300-900 meters is met with in eastern PM and in a small eastern parts of Bharooch district. In the Sahyadris in Dangs district, elevation of 1000 meters is met with. Saputara, the state's only hill station is at an elevation of 875 meters. (Physical feature Map).

Rainfall

The state is under the influence of s-w monsoon and is at its peripheral boundary. The monsoon season is of very short duration, about three months and in rest of the year, there is no precipitation. Only rarely, some precipitation occurs in the remaining part of the year. Monsoon commences usually by the middle of June and withdraws by the end of September. The precipitation in the first half of June and the latter half of September, is very little compared to the intervening period. The state's annual average rainfall is 820 mm (Table-1). July and August are considered the rainiest months. The peak, is usually reached in the last week of July (Graph-A1). The rainfall chart, as shown in the graph, indicates that there is increasing rainfall in successive weeks, except a slight depression in 29th week (Graph-A1) and 34th week (Graph-A1). The chart has been framed by working out the average rainfall in various weeks of all the reporting stations. This distribution chart, however, is not a real representation of the happenings in a year. The rainfall

usually accompanies cyclonic storms which are not continuous during the season. Generally there are 2-4 such spells of rainy periods and the intervening period is usually rainless. In particular, this happens after the start of the monsoon in June, which facilitates sowing operations thereafter. In between two rainy spells when the crop is growing, the farmers are able to interculture the fields for removal of weeds. In regions where such rainless spell are not long, weed growth becomes a problem, as is the case in s. Gujarat. From the point of view of agriculture, the weekly average rainfall chart is not helpful in understanding the problem related to agriculture. In future, it would be of interest to prepare rainfall charts related to the rainy and the rainless spells during the monsoon season.

As in case of total annual rainfall, the variability of the mean annual rainfall also varies from zone to zone.

Classification of soils

Soil survey of the state has not been completed as yet, though a beginning has been made. In defining the crop zone, this information if it was available, would have been of immense value. However, a soil survey of this type requires quite a long time to complete and

therefore it was not felt desirable to postpone this publication on crop zones of the state. The textural classification of the soil is undertaken in many scattered places in the state for many different purposes. Some of these have been for classifying soils for their irrigability, others have been analysed for determining its use for cultivation. Soil survey has, however, been completed only for Surat and Valsad districts. An attempt has been made to use the available textural classification of soil from all over Gujarat obtained from different sources. Even then, it was found that some of the talukas were entirely left out and no textural classification was available for even a few samples. An attempt was, therefore, made to collect the samples and determine the textural classes to which soil of the talukas belong. In view of the secondary use of these soil samples which were collected and analysed for some other purposes. Possibility of soil samples in some of the talukas not possessing all the attributes for representativeness, cannot be ruled out. Even when the samples had these limitations, the analytical results now available help us in classifying the soils of the talukas and distinguishing them from each other. The descriptions which have been offered here for various crop zones, however, will have to be renewed when the detail soil survey is completed and lines re-drawn, where necessary.

The nature of formation of soil is in most cases easy to determine. It has, therefore, been used as the principal distinguishing characteristic. Two broad soil formation types have been noted - one is the residual type and the other alluvial type. The eastern hilly belt of the state has most of its area with residual type of soil. In undulating region like this, however, the local alluvial deposits are present along the banks of rivulets. The predominant type of soil is, however, residual type.

The variability of soil types from one part of the state to another is thus large. In regard to its relationship to crop pattern, it may be stated that at least one characteristic i.e. a depth of the soil, has been important in determining whether a successful cotton crop can be grown under rainfed conditions. Cotton has been used as an important indicative crop in determining the zones in the state. Traditionally cotton has been grown in the black cotton soil and the residual soil of medium depth or deep. It has not been successfully cultivated in the sandy loam or the loamy sand zones, which has limited the expansion of the area under the crop in these zones. On the other hand, the sandy loam soil has been identified as best area for tobacco cultivation. In demarcating the zones, therefore, such basic correlations of soil and crop has been kept in view.

Temperature and relative humidity

Weekly maximum and minimum temperatures along with the average relative humidity have been obtained for the available stations in various zones. However, it has not been possible to obtain this information for all the zones and therefore information is reproduced (Table-6.) for those for which available. In the state, the average minimum temperature (12.5°C) is generally reached in about the 4th week of January, while the maximum temperature is reached approximately in the second week of May (19th week). The average maximum temperature is 39.8°C .

The minimum relative humidity is reached in the 1st week of February (6th week). While the minimum relative humidity is 62.6 %, the maximum is 89.8 %, which is reached in the first week of August (31st week). In the latter two weeks of July also, relative humidity remains high (88-89 %) and continues to be so upto the last week of August (35th week). In other words, the latter two weeks of July and the whole month of August is the period of highest humidity in the state.

Crop seasons

Three crop seasons are recognised in the state - (1) the kharif crops, which are sown in the monsoon season, (2) rabi, the winter crops which are sown after the monsoon recedes and the winter begins, and (3) the summer crop, generally sown in about January-February. The approximate proportion is 41 : 41 : 18 for kharif crops.

The kharif crops fall in two main groups - those with short period of maturity (about 4 months and less) and the long duration ones with a maturity period of 5 to 8 months. In the first group (^{Group-A} ~~Group-A~~) are cereals, except jowar; the maturity period of jowar varieties can be both short and long duration. The early ones are the fodder types, and those with longer maturity periods are grain types. Due to paucity of data, it has been for the time being put under short duration kharif, though further study will help to create a more accurate picture. All pulse crops except tur (*Arhar Gajanus*) are of short duration. Amongst crops other than foodgrains, groundnut is a major short duration kharif crop. The long duration crops (Group B) besides tur, are the two important commercial crops of cotton and tobacco. Proportion of these crops in each locality usually gives it a distinctive characteristic. The proportion of the area under groups A & B enables differentiation of certain crop zones in Gujarat. The extent of individual cereal crops like bajra and hill millets within the group of short duration kharif crops also helps us to identify crop zones.

The extent of rabi crops (Group C) is indicative of availability of soil moisture after harvest of kharif or as in most parts of Gujarat, the available irrigation resources, as many of these are grown under irrigation. Wheat to some extent is grown as an unirrigated crop, but

its major area is irrigated. The other rabi crops are gram and Dolichos which generally grow on residual moisture and are not usually irrigated.

In a rainfall distribution pattern confined to a few months in monsoon, growth of perennial crops without irrigation is dependent on soil depth and moisture retentiveness. Commercial plantations of fruit trees are thus confined to regions with deep retentive soil with high rainfall. Fruit trees, sugarcane and banana, are also successfully grown when perennial irrigation is available. These and others are all in Group D.

The major crops grown in Gujarat thus fall into the four groups, namely (A) short duration kharif, (B) long duration kharif, (C) rabi crops and (D) others including perennial crops. Their relative extent has been used here to delineate crop-zones.

Sowing period

Assessment has been made of the sowing and harvesting periods of major crops. These are - bajra, groundnut, cotton, maize, which are kharif crops and wheat which is a rabi crop. Though the information on sowing time of paddy is available, as the crop is either sown or drilled, separate data could not be collected and therefore, data in regard to sowing and transplanted crop has not been presented. However, harvesting time of paddy has been tabulated (Table 4.4).

Thousands of crop cutting experiments are being conducted in the state for assessment of yield. Ancillary information of these plots such as sowing, harvesting time, fertilizer application etc. is being compiled since long. It was, however, considered adequate to compile the average time of sowing and harvesting for triennium ending 1971-72 figure, which is presented in table from 4.0 to 4.5A for sowing and harvesting. Percentage of sample fields sown & harvested and falling in different weeks have been used as a criterion for sowing and harvesting period. The conditions for sowing are not reached uniformly at the same time everywhere, and the period extends for nearly a month and more for each crop. Sowing generally begins in the second week of June (23rd week of the year) and is more or less completed by the first week of July for the crops of groundnut and bajra. A smaller proportion of fields are sown thereafter. Sowing of maize crop, which is concentrated only in one zone, generally commences about the same time as groundnut and bajra, but gets completed by the first week of July (27th week); relatively small percentage of fields remain to be sown thereafter. It is observed that in case of groundnut, the sowing is completed little earlier than bajra. The sowing of cotton appears to be more staggered than is case for groundnut, bajra or maize, though peak sowing period of cotton is about the same as these crops.

Unlike the sowing period of rainfed crops, the sowing time of irrigated wheat as well as unirrigated wheat is more accurately defined. This is so because, soil management in post monsoon period is easier, and in case of irrigated wheat, the day of sowing can be suitably adjusted. The two types of wheat grown in the state are durum (unirrigated), and aestivum types which are of irrigated. The durum wheat is grown principally after kharif fallow. As moisture is a limiting factor, the farmers try to sow the crop as early as possible even though it is warmer than the conditions at the normal wheat sowing time. Consequently, the sowing time of such wheat is usually earlier.

The sowing of wheat is concentrated in the 3rd week of November, with a peak in mid-November, which is the recommended sowing time for aestivum wheat. In parts, sowing of aestivum wheat is later than this period as in zone IV. (Graph B.04).

Harvesting period

Out of the kharif crops, the harvesting period of maize is more sharply defined than other kharif crops; it begins usually in the first week of September ^(36th week of the year) and most of it is completed by the second week of October (41st week of the year). The bajra crop generally begins to be harvested about the same time as maize crop, though the harvest period is more staggered. Comparing the weeks when largest proportion of fields are harvested, it is seen that bajra is harvested little later than maize. The peak of harvesting of groundnut is some what later than that of bajra and most of it is concentrated between the second week of October to the second week of November. Separate data for the two types of groundnut, the erect variety, which is of shorter maturity period and the spreading variety which has longer duration, are not available. Further attempt to redefine sowing periods for the area growing these two varieties separately, is required for a better understanding of the actual time of harvesting. The harvest of paddy is concentrated in the month of October, and small proportion of crop is harvested prior and later to it.

Cotton is a kharif crop with long maturity period, extending anything from 6-9 months. There are large number of pickings of cotton and if all the data are ~~summarized~~ ^{analysis.} compiled, it may not lead to an accurate ^{analysis.} Consequently, the percentage of crop from which the first and the second picking in each of the week has been ascertained and recorded. As would be seen from the table 4.2A, the first picking begins by about October and continues as late as in March. ~~Such~~ wide variation is because of varietal differences and due to the climate. The second picking usually begins about a month later and ends later by a similar period. Looking to the spread of the frequency distribution of the percentage fields harvested in different weeks, it is concluded that varietywise and zonewise information should be compiled in order to define precisely the harvesting period of cotton.

The harvest period of wheat, like its sowing time is distinctly definable. More than 50 % of the crop is harvested in the month of March and little of the harvest is in April. Some part of the crop, particularly durum wheat is harvested earlier and the arrival of this wheat in the market is also earlier than aestivum types (Table 1.0).

Basis of crop zones

A taluka and a district are the administrative units, and consequently for agricultural development plans use is made of such units. Unfortunately, this concept also prevails in applied agricultural research, and results of adaptive trials are compiled on the basis of districts. The production estimates of crops are also planned with district as a unit. As Gujarat state has considerable variability, of rainfall, soil & crops, it was considered desirable to demarkate zones of homogeneity in regard to crop pattern. Such zones would then be used for many purposes.

The crop area statistics are available for each taluka, and though they are compiled on the basis of village-wise statistics, the latter are not yet available in a manner as can be used for delimiting crop zones. Taluka has, therefore, been used as the smallest unit for deliniation. Selection of crops in traditional agriculture, has been by a process of trials and errors over many decades. Most of the crops grown now are so closely suited to the prevailing climate, and water resources, that a change is not usually immediate. Though process of introduction of new crops continues, greatest diversity is achieved where irrigation is available, and changes in crop pattern are also immediate. In Gujarat which has about 10-13 % crop area irrigated, such possibility is therefore limited for the state as a whole. Centres of such development are, however, observed when an irrigation system has been constructed.

In the deliniation of crop zones, the greatest constraint has been the absence of a soil survey, and studies on crop-weather studies. A ~~large~~ lot of studies both in spread and depth is called for. However, as certain types of crops, and soil types are known to be characteristic of specific regions of the state, it was considered advantageous to demarkate zones having some degree of homogeneity in extent of crops grown. Map 3 shows the demarkation of twelve zones so constituted. The nomenclature of the zones adapted here is related to types of soil and the distinctive crop(s). In a few zones, though area under a crop may not be the largest, still the crop if it is observed to give an identity to the area, it is used to provide a proper name for the zone.

Crop Zones

The following crop zones are proposed, and the talukas included in each are also indicated therein :

Zone I : Residual soil - Maize zone

District	Talukas covered (Total No.18)
Banaskantha	Danta
Sabarkantha	Khedbrahma, Idar, Vijaynagar, Bhiloda, Modasa, Meghraj, Malpur, Bayad.
Kaira	Vadasinor.
Panchmahals	Lunawada, Santrampur, Shehra, Zalod, Godhra, D'baria, Limkheda, Dahod.

Zone II : Residual soil - Cotton zone

District	Talukas covered (Total No. 9)
Panchmahals	Halol, Jambughoda,
Vadodara	Jabugam, Chhota Udepur, Naswadi
Bharooch	Nandod, Dediapada, Sagbara
Surat	Nizar.

Zone III : Residual soil - Paddy zone

District	Talukas covered (Total No. 9)
Surat	Songadh, Uchhal, Vyara.
Dangs	Ahwa
Valsad	Chikhali, Vansda, Pardi, Dharampur, Umbargaon.

Zone IV : Deep black soil - Cotton zone

District	Talukas covered (Total No. 18)
Bharooch	Amod, Bharooch, Ankleshwar, Waghodia, Jhagadia, Valia
Vadodara	Karjan, Dabhoi, Sankheda, Sinor, Tilakwada
Surat	Mangrol, Kamrej, Mandvi, Bardoli, Palsana, Valod, Mahuva.

Zone V : Sandy loam soil - Bajra-Tobacco zone

District	Talukas covered (Total No. 14)
Ahmedabad	Ahmedabad (city), Daskroi.
Kheda	Mehmedabad, Kapadvanj, Nadiad, Thasra, Matar, Petlad, Anand, Borsad.
Panchmahals	Kalol
Vadodara	Savli, Padra, Vadodara.

Zone VI : Loamy sand soil - Bajra-Cotton zone

District	Talukas covered (Total No.9)
Mehsana	Chanasma, Visnagar, Mehsana, Vijapur, Kadi, Kalol.
Sabarkantha	Himatnagar, Prantij.
Ahmedabad	Dehgam.

Zone VII : Sandy soil - Bajra-Pulses zone

District	Talukas covered (Total No. 23)
Kutch	Lakhpat, Abdasa, Nakhatrana, Mandvi, Bhuj, Mundra, Anjar, Bhachau, Rapar.
Banaskantha	Wav, Tharad, Dhanera, Deodar, Santhalpur, Radhanpur, Kankrej, Deesa, Palanpur, Vadgam.
Mehsana	Harij, Patan, Siddhpur, Kheralu.

Zone VIII : Clay alluvial soil - Cotton/Dry wheat zone

District	Talukas covered (Total No.12)
Mehsana	Sami
Ahmedabad	Virangan, Sanand, Dholka, Dhandhuka
Kheda	Khambhat
Surendranagar	Dasada, Halvad, Dhrangadhra, Lakhtar, Limbdi.
Rajkot	Malia.

Zone IX : Residual soil - Groundnut zone

District	Talukas covered (Total No. 50)
Amreli	Amreli, Babra, Lathi, Lilia, Dhari, Khambha, Kunkavav.
Bhavnagar	Gariadhar, Gadhada, Umrata, Shiher, Palitana, Kundla, Kotad, Vallabhipur, Bhavnagar, Ghogha.
Jamnagar	Jamnagar, Khambhalia, Bhanvad, Lalpur, Jam Jodhpur, Kalawad, Jodia, Dhrol
Junagadh	Junagadh, Visavadar, Kutiana, Manavadar, Vanthali, Bhesan, Keshod, Mendarada, Talala.
Rajkot	Rajkot, Upleta, Paddhari, Lodhika, Morvi, Kotda-Sangani, Wankaner, Jasdan, Jamkandorana, Gondal, Dhoraji, Jetpur.
Surendranagar	Chotila, Muli, Wadhavan, Sayala.

Zone X : Littoral - Cotton/^{Dry}~~irrigated~~ wheat zone

District	Talukas covered (Total No. 4)
Bharooch	Jambusar, Vagra, Hansot
Surat	Olpad

Zone XI : Littoral - Paddy-Wal zone

District	Talukas covered (Total No. 4)
Surat	Choryasi
Valsad	Navsari, Gandevi, Valsad.

Zone XII : Littoral - Groundnut-Bajra zone

District	Talukas covered (Total No. 13)
Jamnagar	Okha Mandal, Kalyanpur.
Junagadh	Porbandar, Ranawav, Mangrol, Malia, Patan-Veraval, Una.
Amreli	Kodinar, Jafrabad, Rajula.
Bhavnagar	Mahuwa, Talaja.

The characteristics of each zone are described below and the differences in, rainfall, soil type and sowing and harvesting periods of major crops follow. (Map-3).

Zone I : Residual soil - Maize zone

It extends along the Arvalli hills in the n-e part of the state. The talukas from Danta of Banaskantha district, the north-eastern talukas of Sabarkantha and upto the southern talukas of Dohad and Devgad Baria talukas of Panchmahals are included in this zone. The terrain is undulating with hills of low altitude. The soil type on the hill slopes is mainly formed in situ and brought under cultivation in recent times after deforestation. In the valleys, local alluvial deposits are of medium depth; they are fertile and have been brought under cultivation in even more recent times. These are called 'Kampas' - the word is derived from camps or settlements established for reclamation of forest lands.

The zone has 82 % of its NSA under short duration kharif crops. Such high proportion of net sown area under short duration kharif crops is observed only in few other zones of Gujarat. The cropping pattern has maize-paddy-hajra-groundnut as short duration crops, out of which maize is the dominant one, and has been used to name the zone (Table 5.01 -Annexure 2.00). Long duration kharif crops occupy about 17 % of the GSA (gross sown area). In certain talukas where local deep soils are found about 30 % is under such crops, mainly cotton. In some talukas of Sabarkantha district viz. Khedbrahma, Idar & Bayad, and in Balasinor of Kheda district, a relatively larger proportion of area is thus under cotton. Its cultivation is concentrated in the Kampas of these talukas. These cotton areas form fairly distinct pockets in the talukas. They are distinct not only with reference to the crop, soil type and productivity, but also because they are predominantly cultivated by Patidars; unlike the rest of the zone where Adivasis, constitute the principal group.

The Balasinor taluka of the north-eastern part of Kheda district has been included in this zone, as it has conditions similar to the adjoining talukas of Bayad of Sabarkantha and Lunawada of Panchmahals district. Like some of the talukas of Sabarkantha district, which have fairly large area under cotton, this taluka also has comparatively larger area under cotton, and less under maize.

About 11 % of the NSA has a second crop in rabi, mainly unirrigated wheat and gram. This creates a relatively high intensity of cropping (111 %) even though the percentage area irrigated is 8.7 %. The irrigation water is principally from wells and remains available upto the beginning of winter and dries off thereafter. The rocky areas of granites, phyllites schists and trap form poor aquifers and ground water is confined to cracks and fissures; this limits their water bearing potential. The characteristics undulating topography results in faster surface run off.

Zone II : Residual soil - Cotton zone

Along the hilly tract of eastern part of the state, south of zone I is this zone, which includes Halol of Panchmahals and a few eastern talukas of Vadodra and Bharooch districts and Nizar taluka of Surat district at its southern end. Soils are mainly residual. In this zone, due to higher rainfall, and less return, maize is cultivated to a lesser extent than zone I. The crop pattern is cotton-jowar-paddy-groundnut. Cotton is dominant (27 %) and is more than the average of zone I, but is similar to some of the cotton growing talukas of that zone in Sabarkantha district (Table 5.02 Appendix 2.01). The predominance of long duration kharif crop results in a lesser proportion of area under rabi crops. Only 2.5 % of the GSA is under crops like rabi wheat, gram etc., unlike about 11 % in zone I. Lesser proportion of rabi crops also results in a lower intensity of cropping (102 %) which is much less than zone I. The area irrigated is 5.7 % of NSA.

Zone III : Residual soil - Paddy zone

This zone lies in s-e part of the state and includes Dangs district, Songadh, Vyara, Uchhal of Surat and Chikhli, Vansada, Pardi, Dharampur, ~~Misri~~ and Umbargaon of Valsad districts. Their location is in the northern most end of the Sanyadri mountains. In this zone due to greater precipitation, the cropping pattern is paddy-hill millets-jowar. The largest proportion of area of 26 % is under paddy and crops like maize & bajra are not grown. The hill millets are included under "Others" short duration kharif, which are grown in about 23 % of NSA. A short duration kharif crop of groundnut is grown in well drained soils of less clay content. Cotton is cultivated only in about 5 % of the area. The second crop following paddy is usually wal (Dolichos) (4 %). The total area under rabi crops is about 8.3 % of the NSA, which is less than zone I but more than zone II. One of the important characteristics of this zone is a larger proportion of the cultivated area under crops of group D. These crops are in 27 % of NSA, which is much more than the state as a whole. A further analysis of the cropping pattern of the talukas of Chikhli, Vansda, Dharampur, Pardi and Umargaon, also show the presence of large area under pastures grouped under "others". These grass lands are important source of fodder in demand in the city of Bombay as well as the district of Surat, both of which have a developing dairying industry. In years of drought, this is also an important source of hay for the rest of the state (Table 5.03 - Annexure 2.02). The area irrigated is 4.4 %, which is quite small, and the cropping intensity is 106 %.

Large alluvial plain

The plain to the west of eastern residual soil zones, extends all the way from north of the state to south. This long and broad belt has alluvial soil through out, differing in fertility, texture and colour. Rainfall and crop patterns also vary greatly. The state is more commonly known by the characteristics prevailing in this area, rather than the eastern hilly area or the peninsula to the west. It is divisible into several zones. The southern most is the deep black soil cotton zone IV, sandy loam, bajri-tobacco zone V, loamy sand bajra-cotton zone VI, and the sandy bajra-pulse zone VII. On the west of zone IV are two littoral zones along the bay of Cambay.

Zone IV : Deep black soil - Cotton zone

On the west of residual soil zones II and III, this zone is situated with deep black alluvial soil. It extends in a few talukas of Vadodra district, the greater part of Surat district, parts of Bharooch district. The kharif cropping pattern is cotton-jowar-paddy and has nearly 50 % of the area under long duration crops like cotton, and only 35 % of the area under short duration kharif crops like paddy. The latter is frequently sown as mixed crop with cotton. Jowar, which is grown to an extent of 18 % though shown as short duration kharif crop

is really a long duration kharif crop in this zone. Including jowar, the long duration crops thus occupy about 60 % of the NSA, which is its distinctive characteristic. The predominance of the long duration kharif crops results in a smaller proportion of area under rabi crops. They occupy only 5.4 %, of which wal (Dolichos) and wheat are the two important rabi crops. They are sown after paddy harvest. Another distinctive feature of this zone is a large proportion (13.5 %) of the area under "other crops" (Group D), which includes many perennials like banana, sugarcane, etc. The diversity of the cropping pattern is principally due to the high rainfall, retentive soils and high proportion of irrigated area (15.8 % NSA). A large part of the zone is under the command of Ukai-Kakrapar irrigation system. When water is fully utilized, the cropping pattern is likely to undergo further changes. At present, the cropping intensity is 104 %, which is also likely to increase.

The zone has three distinct tracts with varying degree of dominance of cotton. The larger proportion of cotton is accompanied by a smaller proportion of jowar and paddy and vice-versa. Its southern part (Kamrej, Mandvi, Palsana, Bardoli and Valod and Mahuva talukas of Surat district) has 24 % of the area under long duration kharif, 21 % of the area under jowar, and excluding jowar, 28 % of the area under short duration kharif. About 10 % of the area is under rabi, giving a cropping intensity of 110 %, which is higher than the remaining part of the zone. This tract has also the largest proportion of perennial and other crops (26 %).

The northern most talukas of the zone has larger proportion of area under long duration kharif, principally cotton. An area including Amod, Karjan, Bharooch talukas of this zone commonly known as Kanam Pradesh is one of the most fertile tracts in the state and is well known for the quality of cotton produced there. This zone has also a larger proportion of area under long duration kharif principally cotton, the area of which varies from 50 to 75 % of NSA (Table 5.04 - Annexure 2.03).

The talukas of Dabhoi, Sankheda, Shinor, Waghodia, Tilakwada, Ankleshwar, Jhaghadia and Valia though have large area under long duration kharif as in Kanam Pradesh, is not considered a part thereof. Parts of these talukas have slightly different feature, and have effect of the conditions similar to the adjoining residual cotton zone.

Zone V : Sandy loam-Bajra-tobacco zone

North of deep black soil cotton zone IV and west of the residual soil cotton zone II, is the sandy loam zone V. Its chief characteristics are the loamy alluvial soil of great depth with extremely good rainage and generally of flat topography, except on banks of rivers where deep ravines are common. It is drained by a large number of small and large rivers. ^{Meshvo} Mahor, Lumi, Shedhi and Vatrak, are the tributaries of Sabarmati.

River Mahi divides Vadodra and Kheda districts, parts of both these are in this zone (Map-1).

Tobacco crop, whose quality is greatly influenced by soil and irrigation water is extensively grown in this zone, and can be considered its typical crop. Likewise, bajra and paddy are also cultivated extensively (Table-5.05 Annexure-2.04).

The sub soil water resource is one of the best in the state, and is extensively exploited. Privately owned dug cum bore wells are common. Distribution is often through underground cement pipes; its tall air-vents above ground at intervals stand out as visible land marks in Kheda district and across the Mahi river in adjoining Vadodra, Padra and Savli talukas.

The core of this zone is the familiar Charotar tract of Kheda district. Most of the reference to this tract in the past, consider Anand, Petlad, Borsad and Nadiad talukas of Kheda district as of this tract. Tobacco crop is more important here than in the remaining part of the zone. The Charotar tract is drained in Sabarmati by Mahor, merging in Luni, then flowing as Shedhi and Vatrak; the latter being an important tributary of Sabarmati. On the s-e of Anand taluka is Mahi river which flows on the boundry of Borsad taluka. Alongwith Sabarmati it flows in the gulf of Cambay. Their delta known as Bhal is much different from Charotar tract.

The riverain tract of Charotar has alluvial soils of great depth and are well drained due to the large number of rivers flowing across it. There is abundance of deep and shallow aquifers which have been tapped and has resulted in high intensity of tube wells and surface open wells; 38 % of NSA of these four talukas is irrigated. The average area double cropped which is 12 % is one of the highest in the state, and is comparable to parts of Mehsana with similar irrigation facilities and extent of double cropping. A further increase is to take place when Mahi/Kadana project, under whose command this tract is located, is commissioned. The productivity of soil is good, which has given the name of tract (Charu (G) - gold, Ter (G) layer).

Characteristics similar to Charotar tract is observed in adjoining Mehmabad and parts of Matar and Cambay talukas of Kheda district, but tobacco is not as important here as in the adjoining talukas. Cambay has not been included here as its major part shares the characteristics of clayey alluvial zone VIII whose part it is considered; the chief difference is its inadequate drainage. The talukas of Ahmedabad city and Dascroi, being on the bank of the river, have alluvial soil, of similar characteristics as the rest of this zone.

Talukas of Thasra and Kapadvanj of Kheda district have been grouped under this zone. The soil type of Thasra is essentially similar to the rest of the zone. Likewise, though to a smaller extent, soil type of Kapadvanj is similar. Tobacco is an important crop in Thasra, but not in Kapadvanj. In both these talukas, cotton is more important than in Charotar tract. The portions of Thasra and Kapadvanj which are dissimilar

from the zone, are in northern Thasra, southern Kapadvanj, and also in eastern Nadiad taluka. These portions of Thasra, Kapadvanj and Nadiad, alongwith small western part of Balasinor taluka are together sometimes referred to as Mal pradesh. Its distinctive feature is black soil suitable for cotton and maize, whose area is significant. It has been brought under cultivation after large scale removal of forest growth relatively recently. Major portion of Balasinor talukas of Kheda district is hilly and is appropriately grouped under residual soil maize zone, rather than the sandy loam soilzone V. These characteristics of adjoining residual soil zone are evident here, and more detailed survey may require fresh deliniation.

On the left bank of Mahi river, talukas of Padra, Vadodra and Savli have similar soil type. Parts of Vadodra taluka (55 villages) and most of Padra taluka said to belong to Wankel tract are included in this zone. It is about 15 miles n-s and 45 miles e-w. Soils are lighter and sandy and tobacco is grown, but other crops are preferred. These talukas though considered a part of this zone, have developed diverse cropping pattern, under the influence of available irrigation facilities from deep aquifers and easy access to the urban markets. Area under fodder jowar and vegetables is more than in the rest of the zone.

Condition similar to Padra taluka of Baroda district extends further along the left bank of Mahi in western parts of Jambusar taluka or Bharooch. It is locally known as Haveli tappa. The prosperity of Haveli tappa is better than Bara vibhag to its west. The relatively large number of rural well built houses - an index of prosperity, (Haveli G-mansion) has been the reason for it being known as 'Haveli' tappa. Its western boundary approximately lies along the river Dhadar dividing it from Amod taluka, and is a few kms west of Jambusar - Kavi railway tract; Jambusar itself has clearly similar conditions. Unlike the rest of zone, here, cotton crop is being grown, which however suffers from root-rot disease as is the case with this zone generally. To its west is the Bara vibhag, a part of the littoral zone II, where aquifers are extremely limited.

Zone VI : Loamy sand - Bajra-cotton zone

Like the sandy loam zone V, this zone lies on the sides of river Sabarmati and is situated north of zone V. The textural classification of soil has not yet been fully made. Consequently, the possibility of sub-dividing the area of even merging with adjoining zones for the time being hasnot been considered. Talukas of Chanasma, Mehsana, /ijapur, Vianagar, Kadi and Kalol of Mehsana district on the western side of river Sabarmati, and Himatnagar and Prantij of Sabarkantha district, and Daggam of Ahmedabad district, are included in this zone. Separate compilation of crop pattern in the district of Gandhinagar, which lies on both sides of the river Sabarmati, has not been made, but it can be safely considered as a part of this zone.

The alluvial soil is very deep and like the sandy loam zone V, has many deep aquifers. They have been over exploited as a large number of tube

wells have been constructed both by farmers as well as government and there is over drawal, resulting in continuous lowering of the water table. As in case of zone V, tobacco is cultivated in a few of the talukas of this zone, but the area is relatively small and the variety grown in Vijapur is of the irrigated type. Bajra happens to be the main crop and the proportion of area under this crop is larger than zone V. Cotton is being cultivated in the parts of Kadi and Kalol talukas of a tract called 'Khakharia Tappa'. The extent of area under cotton in these two talukas is larger, as is also the case in Himatnagar taluka on the eastern side of the river Sabarmati. The significant cotton area in Himatnagar is indicative of conditions in parts thereof, being similar to the talukas of Idar and Bhiloda talukas of the residual soil - maize zone I (Table 5.06 - Annexure-2.05).

The extent of net irrigated area is one of the highest in the state. Vijapur taluka of this zone has 47 % of the area irrigated, which is the highest in the state. The crop pattern has been greatly influenced by the availability of irrigation water and lately with the possibility of growing hybrid cotton, the area thereunder has increased considerably in some of the talukas of this zone. The extent of double cropping is relatively high (16 %) and in some of the talukas irrigation extends to even 30 % of NSA. The scope of further increase of irrigated area is limited. In parts of Khakharia Tappa, which grows unirrigated cotton of the Vagad type, ground water resource is poor.

Prantij and Himatnagar of Sabarkantha and Dehgam of Ahmedabad have significantly more groundnut area which in the case of talukas of Sabarkantha district represent the characteristics of the residual soil - maize zone I, where this crop is also cultivated to some extent.

The border talukas of this zone are recognised with some difficulty but are put together due to their location and some similarity of crop pattern. It is, however, possible to sub-divide it further and create more homogeneous groups of talukas. Certain crops like cumin, rape, mustard and isabgul though grown in small area are well known here

Zone VII : Sandy soil - Bajra-pulse zone

The portion of n-Gujarat which is in the arid climatic zone is mostly included in this. The whole of Kutch district, most of Banaskantha and a few northern talukas of Mehsana district are considered as part of this zone. Bajra and pulses are the predominant crops, the latter are included in the category of 'others' under group(A' (Table 5.07 - Annexure-2.06). Fodder jowar is also an important crop. It is possible to sub-divide this zone into northern and southern half depending on the extent of area under cotton. In the southern talukas of Kutch viz. Mandvi, Mundra, Anjar, Bhachau and Rapar, significant area is under cotton. Likewise, Santalpur and Radhanpur of Banaskantha and Harij of Mehsana have cotton as an important crop. Amongst these, the southern talukas of Kutch viz. Mandvi and Mundra have better irrigation sources and some perennial crops are grown.

Conditions akin to zone VIII with clay alluvial soil and cotton-dry wheat crop pattern exist to some extent in the talukas of Radhanpur, Santalpur and Harij where unirrigated durum wheat is grown to some extent. However, in view of area under cotton being relatively less, it is not considered a part of zone VIII and has been retained in this zone VII. However, the possibility of sub-dividing the zone does exist.

Zone VIII : Clay alluvial soil - Cotton/Dry wheat zone

This central zone nearly divides the state in two major divisions, the eastern part, and the western peninsula. The zone is the land mass between the bay of Cambay in south and the bay of Kutch in n-w. In geological times, it was under water, but has got silted. Now it is just above sea level, and is generally flat. Area is prone to inundations, and soils are alluvial. Problems connected with soil inundation are faced in varying degree.

Talukas included in this zone are, Cambay (Kheda district), Dhandhuka, Dholka, Sanand and Viramgam (Ahmedabad), Sami (Mehsana), Dasada, Lakhtar and major parts of Limdi, Dhrangadhra and Halvad (Surendranagar), Malia (Rajkot) and a small part of Jodya (Jamnagar). The latter taluka is, however, not included in this zone. Southern part of Dascroi has similar characteristics, but as it has less percentage of long duration kharif crops, it is put in the sandy loam zone, with similar soil type. Likewise, in parts of Mehmudabad & Matar talukas of Kheda have characteristics of this tract, and village-wise survey will enable suitable deliniation, in the mean time, they are kept in the sandy loam zone V.

Its clayey to sandy clay loam soil is generally suitable for cotton cultivation. In the southern part, unirrigated wheat (durum) is the alternate crop to cotton (Table-5.08 - Annexure-2.07), but in its northern talukas, wheat as an alternate crop is not generally feasible due to moisture stress. Cotton variety grown in the zone belong to the closed boll Herbaceum Wagad type. The northern talukas have much larger proportion of NSA under cotton crop, than the southern part. Sorghum, mostly for fodder, is grown almost everywhere in this zone. The characteristic crop pattern in the large northern part is thus cotton/jowar. In the southern talukas, particularly in Bhāl tract, wheat is an alternate crop to cotton. Paddy is also cultivated in the southern area in the low lands, but is not so in the northern talukas.

Sub soil water resource is poor and where tapped is usually saline and unfit for irrigation. Artesian tube wells exist in certain parts, but water is unfit for cultivation. Large salt works exist in its northern part. In its southern part near Cambay, there is a gas and oil field.

At its northern end, the central zone fans out in a narrow belt along the southern coast of bay of Kutch. Deep black alluvial soil deposits, is laid over red or yellow clay of marine origin, in a sharply defined layer. Such soil deposits are in the northern part of Dhrangadhra

and Halvad of Surendranagar district, and in Malia taluka of Rajkot district, and part of Jodiya in Jamnagar district constituting its western fringe. Soil depth may extend upto 2 meters in Malia taluka and adjoining small part of Morbi taluka. In the southern part of Morbi taluka is the beginning of another zone with soil formed in situ on trap rock of the peninsula.

In its extreme south, around the bay of Cambay is the Bhal and Dasakeshi tracts. These tracts are known to the people since long as areas with identifiable, topographical characteristics and crop pattern.

Bhal tract

Formed by silt deposition at the mouth of rivers Sabarmati, Bhogavo and Mahi, the tract is flat and only slightly above sea level. The plain is compared in flatness to that of human forehead from whose Gujarati equivalent the tract derives its name (Bhal (G) = forehead). Soil is black, clayey and deep with impervious sub-soil, preventing infiltration. Surface drainage is also impeded due to flat topography, inadequate drainage system, and inadequate outfall in the gulf. The tract gets water logged in monsoon, and sowing is dependent on recession of water. Cotton is the preferred crop, and sown if soil conditions permit, but it often gets destroyed due to water logging. As comparatively, it is a remunerative crop, farmers attempt frequent resowing if earlier ones are destroyed. The preferred variety is the closed ball herbaceum type as in the case in the rest of the zone VIII. If successful cotton crop is not ensured by August, the field is harrowed and prepared for sowing of wheat in winter season. Areas under cotton and wheat are negatively associated and fluctuate according to rainfall in July to September. Heavy rainfall hinders cotton cultivation and leads to larger area under wheat and vice-versa. (Patel & Shah 19). The tract is famous for the durum wheat cultivated on residual moisture, which fetches higher price than aestivum irrigated wheat grown elsewhere in Gujarat. A third important crop is sorghum for fodder. Ground water is brackish and tree growth is sparse.

53 villages out of 105 of Cambay taluka, 16 out of 82 of Matar taluka of Kheda district, are in typical Bhal tract. These talukas now fall under the command of Mahi/Kadana irrigation projects. The area near the gulf in Cambay are the flood plains, with heavy soils 1.2 to 1.5 meter deep underlain by comparative coarser structure; this type of soil predominates in the Bhal tract.

Bhal tract extends northward from Cambay into Matar taluka and on the western bank of river Sabarmati in Dholka and Dhandhuka taluka of Ahmedabad district. 46 of the 117 villages of Dholka and 60 out of 142 villages of Dhandhuka taluka are reported to have typical characteristics of Bhal tract. Flood plain of river Bhogavo, in Surendranagar district, in Limbdi taluka known as Hadala Bhal has also similar characteristics. A part of

Vallabhipur (Bhavnagar district) also shares similar characteristics, though to a lesser degree.

Daskoshi tract

North of the Bhal tract in the central zone is the Daskoshi tract. This rice growing tract is commonly accepted to be on the eastern bank of river Sabarmati in Matar taluka and a small part of Mehadabad taluka of Kheda district and Daskroi taluka of Ahmedabad district. It is also flat, and well adapted for transplanted rice cultivation with the irrigation from diversion canals from Hathmati and Meshwo, the tributaries of Sabarmati. Productivity is high, but varies greatly according to availability of canal flow.

Transplanted rice is grown elsewhere in this zone, wherever local depressions provide adequate accumulation of water. Thus, significant area under rice exists in Sanand and Dholka taluka of Ahmedabad on the western bank of river Sabarmati. The extent of paddy cultivation in this zone, lessens towards west and north (Map-1 & 3).

The peninsula

The Saurashtra peninsula has sharply different agro-climatic conditions from the eastern plain of the state. A few of its eastern talukas share the characteristics of zone VIII. The north western tip i.e. Okha Mandal, Khambhalia and Kalyanpur are parts of the arid climatic zone which includes Kutch and western parts of Banaskantha. The central part of the peninsula has the soils suited for cultivation of groundnut, bajra and jowar. Most of this zone has groundnut as the dominant crop with less area under cotton which is indicative of the relative shallowness of soil prevalent in the zone. Depending upon the relative area under groundnut, bajra and cotton, there are three or four different but illdefined tracts.

The eastern talukas have relatively less area under groundnut with a corresponding increase in the area under cotton. This eastern part has deeper soils than the central part leading to a larger proportion of area under cotton than is generally the case in this zone. The somewhat larger proportion of area under cotton in Jodiya, Morvi, Wankaner, Mali, Sayala and Vadhvan indicates its similarity with the zone VIII.

The talukas of Amreli, Lathi, Liliya, Gadhada, Jasdan, Botad, Shihor and Umralla have somewhat deeper soils in parts, which has enabled the cultivation of cotton to a greater extent than is the case in the central part of the peninsula.

On its south west corner, the talukas of Upleta, Dhoraji, Junagadh, Vanthali, Kutiyana, Manavadar also have a relatively larger area under cotton than is in the case in central part. These talukas are amongst the most prosperous farming areas of the peninsula.

Its north-western talukas of Jamnagar, Lohpur, Khambhalia, Bhrol, have also relatively less area under groundnut with a larger area under jowar, mostly of the fodder types. Cotton cultivation is almost insignificant in these talukas. This is due to the shallow soils and the influence of the adjoining arid zone.

This region can be said to have more than three cropping systems - (1) groundnut-bajra-jowar-little of cotton, (2) bajra-jowar-groundnut-cotton, (3) groundnut-jowar-bajra-very little of cotton, (4) cotton-bajra-groundnut. We have, however, for the time being only considered the peninsula in two zones - zone IX residual soil groundnut & its southern coastal zone XII (Map-1 & 3).

Zone IX + Residual soil - Groundnut zone

A large part of the peninsula is included in this zone. A few of the talukas in the n-e of Surendranagar district and those along the southern coast are distinguishable from the rest of the peninsula. The distinguishing crop in this zone is groundnut, and the other crops grown are bajra and cotton. In respect of the proportion of these crops, groups of talukas can be further differentiated. Talukas 1 to 12 (Table-5.09 - Annexure-2.06) can be said to have all the three crops of bajra, groundnut and cotton. The talukas of Bhavnagar district - Sr.No.13 to 18 - have relatively more bajra area and less of cotton. Vallabhipur taluka has diversified conditions prevailing in it. Part of it is like the Bhāl tract of the central alluvial zone VIII, rest of it is similar to the rest of Bhavnagar district. The conditions similar to the central alluvial zone VIII enables growth of some significant proportion of cotton in this taluka. Talukas of Upleta and Dhoraji of Rajkot district (Sr.No.18 & 19) and the adjoining talukas of Junagadh district viz. Kutiyana, Manavadar, Vanthali and Junagadh have uniformly larger area under cotton as compared to the general conditions prevailing in the zone and also have very large area under groundnut.

This zone with residual soil, can be said to fall in 3-4 sub-groups - (1) n-e part, (2) s-e part and (3) southern part, and (4) the rest of the central part of the peninsula. However, as groundnut is the dominant crop generally in this area, all the talukas with such area has been retained in this zone. When its n-e, s & e boundaries are drawn on the basis of cropping pattern of villages, the size of the n-e talukas of central alluvial zone VIII and the southern talukas of Rajkot and n talukas of Junagadh may constitute an independent zone. For agricultural development work, however, this diversity will have to be kept in view all the time inspite of the fact that they have been kept in one zone.

Littoral zones

The coastal area on both sides of the bay of Cambay, have crop patterns which are different from the hinterland. The one on the east of the bay, includes parts of western taluka of Bharuch district, and southward the coastal

talukas of Surat and Valsad districts. The littoral zones of the eastern side of the bay are rather small and made up of a few talukas. On the west of bay is the beginning of the littoral zone of the peninsula. It is long lying along the arch of the peninsula and made up of many rainfall & crop patterns. It is considered the most fertile area of the peninsula, and is referred to as its green belt to distinguish it from the rest of the peninsula which has sparse tree growth.

Zone X : Littoral - Cotton/dry wheat zone

This coastal area is flat, the soil is black, alluvial, self mulching type, with yellow or gray marine earth at a few feet depth. Drainage is impeded. In earlier period, due to the difficulties of working the soil in monsoon, unirrigated rabi crops of wheat and lang (Lathyrus sp.) and late sown jowar were dominant crops. Drainage channels have since been constructed, making it possible to grow cotton. Even then the practice is to sow cotton in dry soil in anticipation of rain as the soil is not workable after the rains. Cotton occupies 57 % of the NSA. In parts where drainage is still poor, unirrigated wheat and lang are grown. Sub-soil water is brackish and unfit for irrigation and at many places even for drinking. Tree growth is sparse. The border along the bay of Cambay has saline lands being under the tidal effect of the sea.

The soil, rainfall and cropping pattern can be thus considered similar to Bhal tract of zone VIII. It has cotton and dry wheat as the characteristic crops as in Bhal tract zone VIII, but the dominance of cotton crop is assured each year by proper drainage. [•](Table 5.10 Annexure-2.09) Thus, this zone can well be considered the southern extension of the zone VIII. Similar conditions extend in Hansot taluka across the river Narmada on its southern bank.

In times when communication by sea was important, for s.Gujarat black alluvial tract, the area around the port of Dahej in Wagra taluka of Bharooch district provided an outlet (Gujarati-Bara). Since then the area is known as Bara vibhag. Though Amod is not included in this zone, few kilometers west of Bharooch-Amod railway line of this taluka is (rest of Amod is in Kanam tract of deep black alluvial sub-zone) considered a part of this zone, along with area of Jambusar taluka a few km west of Kavi-Jambusar railway tract, i.e. excluding its Haveli tappa, Wagra taluka excluding the villages of Vachhnad, Rahad, Ankat, Saladra and Argama, villages of Ankleshwar, Chorad, Sankhwad, Navetha, Aksal, Bhadbhut, Megham, Manad, and Kesrod of Bharooch taluka and Olpad taluka of Surat district.

Zone XI : Littoral - paddy-wal zone

The coastal Surat and Bulsar districts are somewhat different from the hinterland. The Olpad taluka of Surat district has been grouped in zone X due to its similarity in regard to higher proportion of cotton with Jambusar, Vagara and Hansot of Bharooch district. Unlike this zone XI, Olpad taluka does not have much of paddy and wal crop. The talukas of Chorasi (Surat district), Navsari, Gandevi and Bulsar of Bulsar district have been grouped into zone XI. This generally have more of paddy and wal

than in zone X. The area under cotton also gradually gets reduced southward and the paddy/wal crop pattern appears as a distinguishing characteristic of the zone (Table 5.11 - Annexure-2.10).

Zone XII : Littoral - Groundnut-bajra zone

Geologically this zone is of more recent origin than the central part of the peninsula. The assured rainfall in most parts and better availability of sub-surface irrigation has enabled introduction of diversified cropping pattern. As this zone extends over a long arc of the peninsula correlations are definitely not uniform. Okha Mandal, Kalyanpur and small part of Khambhalia can be considered to be a distinct tract and a part of the arid zone. They ~~are~~ have as much as 57 % of the NSA under bajra and 33 % of the area under jowar and very little area under groundnut and cotton crops. The talukas of Kalyanpur, Porbandar and Ranavav have considerable similarity in regard to cropping pattern. Groundnut is the dominant crop, but its proportion is not as much as the main part of the peninsula, falling in zone IX ; groundnut, bajra and cotton ~~form~~ form the cropping system with area under bajra and cotton not too widely different.

The talukas of Mangrol, Maliya and Veraval too have large area under groundnut and less area under bajra, as is the case in the talukas like Dhoraji and Upleta of zone IX north to it, but they do not have any significant area under cotton, thus, distinguishing it from the talukas north of it (Table 5.12 - Annexure 2.11). Eastward Kodinar and Una talukas have similar conditions, but a lesser proportion of area is under groundnut. Like the talukas of Mangrol etc., it has a larger proportion of area under perennial crops particularly sugarcane. Mango, coconut and banana are the other perennial fruit trees grown in the area and for which the zone is well known. Tree growth provides a good cover to the soil unlike in the rest of the peninsula. The littoral talukas of Bhavnagar district form the eastern end of this zone. In some of them perennial crops are common, coconuts being a preferred plantation crop. Rainfall and ground water are, however, not the same as in coastal talukas of Junagadh district. In general, though this zone is constituted of all littoral talukas of the peninsula, there is scope of sub-dividing them, after a study of their soil, rainfall and prevailing temperature.

Zonal variation in rainfall

In regard to the total annual precipitation, considerable variations are observed in various parts of the state. The highest annual mean precipitation of 1676 mm is in the zone III in the s-e part of the state. In the eastern residual belt, rainfall from the zone III decreases northward; zone II north of it receives 1105 mm and zone I 964 mm. The black soil cotton zone III has annual rainfall of 1147 mm. The mean annual rainfall also decreases northward in the alluvial plain and the minimum rainfall is met with in the northern most zone VII. In the peninsular area, the difference between rainfall of the zone IX and the littoral zone X is not much (Map-2 - Rainfall tables 1, 2.0, 2.1 & 2.2).

The frequency distribution of c.v. for the zones is given in Table 2.2. Variability is the minimum in zone III, which also has the highest mean annual rainfall. In the zones IV & V, though the reliability is little less than zone III, it is comparatively more than other zones. The greatest range of variability to met with in zone I, maize growing area of the state, which is known as chronically drought affected area. Similar wide variability is also experienced in the zone VII in the northern part of the state where also droughts are a frequent phenomena.

Zonal differences in temperature and relative humidity

The average minimum temperature of 9° C is experienced in zone VI and zone IX, during the 3rd and 4th weeks of January; unlike in zone V (i.e. ~~sandy~~ sandy loam soil) where the average minimum temperature 10.5° C is experienced in the 1st week of January. In zone XI (i.e. Littoral soil - paddy-wal) the average minimum temperature is experienced in the 4th week of January (12.0° C), likewise in its neighbouring zone IV (i.e. deep black soil - cotton) also the average minimum temperature is experienced in the same week (13.4° C) and even in the zone VIII (i.e. clay alluvial soil - cotton/dry wheat) also the average minimum temperature is experienced in the 4th week of January (11.7° C). While in the zone XII (i.e. Littoral soil - bajra-groundnut) and zone I (i.e. Residual soil - Maize), the minimum temperature reached is upto 15.8° C and 15.9° C in the first week of February, which is warmer than the rest of the zone (Table-6.0). In above first 6 zones, the average minimum temperature varies from 9.0° C to 13.4° C and in most of the zones, the minimum temperature experienced is in the last days of January.

In Gujarat, frosts are known to damage certain crops like cotton, tobacco and brinjal, which are considered susceptible to frost damage. It would be of interest to study the existing data of temperature with regard to frequency of occurrence of frost and the time of occurrence in the various zones of the state.

As regards maximum temperature, the variation between the zones is 32.8° C to 43.9° C. The maximum temperature of 43.7° C is experienced in the zone V (i.e. Sandy loam soil - bajra-tobacco) in the first week of May (20th week). In all zones, except zone XI (i.e. Littoral soil - paddy-wal) and zone XII (i.e. Littoral soil - Bajra-groundnut), the maximum temperature is experienced in the first week of May (i.e. 20th week), while maximum temperatures of 38.0° C and 32.9° C are experienced earlier in the zones XI and XII (15th & 17th week).

The minimum average relative humidity of 65.3 %, 63.9 % & 51.3 % are experienced in the first week of February (i.e. 6th week) in the zone IV, zone XI and zone I respectively, while in zone IX, it is 72.2 % experienced in the first week of January as well as in the first week of February (i.e. 6th week). The variation in relative humidity in these four zones is 90.3 % to 65.3 %, 90.0 % to 63.9 %, 93.4 % to 51.3 % and 95.1 % to 72.2 %.

respectively. The maximum relative humidity in the above zones is experienced from July end 31 to August (30th, 33rd & 32nd week respectively). In zone VIII, the range of relative humidity is between 87.2 % to 53.6 % , the maximum is experienced in the first week of August (32nd week), while minimum in the last week of January (5th week).

In all the zones, except zone V & VI, the minimum average relative humidity is experienced in the first week of February, while in the zone V & VI, it is experienced in the end of February and first week of March (10th to 9th week) respectively. The maximum average relative humidity is experienced in all the zones in between the last week of July to the end of August (30th to 34rd week).

Zonal differences in soil types

In the eastern hilly region, which is divided into 3 zones, the residual soils are of varied types. In zone I, the predominant group is loamy, sandy loam and loamy sand, but in zone II, the largest number of samples are clay. This, however, may not be considered as a final picture, as more representative soil analysis may alter the relative proportion of soil types. In zone III, which also has residual soil, clay, loamy, sandy loam, loamy sand and clay loams are met with in fairly large measure. The other residual soil, groundnut zone IX, has more of clayey soils.

In the alluvial plain, the southern zone IV has more proportion of clayey and clay-loamy soils, though loam and sandy loams are also represented. Further north, zone V, has predominantly sandy loam soils. While zone VI has an even larger proportion of sandy loam soil, but to differentiate it , the larger extent of loamy sand, as compared to zone V, it is emphasized. The differentiation of zone V & VI as already pointed out, is not clear; soil types would indicate that zone V & VI are not significantly different. However, in view of needed further study, a difference is maintained between zone V & VI. The northernmost zone VII has soil types ranging from sandy clay loam to sandy. It has sandy loam and loamy sand soils, however, this zone has the largest proportion of sandy soil when compared to the rest of the zones, and particularly zone V & VI which also have sandy loam and loamy sand soil. It is, therefore, proper to consider sandy soil as characteristics of the zone.

The sandy clay-loam soil are predominant in zone VIII, though in places sandy loam and clay soils are met with. All the three zones, X, XI & XII have clay soils as dominant types (Table-3.0).

Variations in sowing periods

The sowing periods of important crops grown in different zones have been compared. As regards bajra (Table 4.0), it is an important crop in six zones (V, VI, VII, VIII, IX & XII). It is observed that sowing commences earlier in the zones which are somewhat southern viz. zone V - bajra-tobacco and zone VI - bajra-cotton zone, and it is later in the zone VII - sandy soil - bajra-pulse zone. This is obviously due to the late commencement of monsoon in the latter zone. In the zone IX - residual soil groundnut,

the commencement of sowing time is similar to zone V and VI, but in the zone VIII, the commencement of sowing of bajra is generally later, which is possible due to the heavier soils and the time taken for the soils to reach optimum conditions for sowing.

As regards groundnut (Table-4.1), the sowing periods of groundnut in zone I, zone IX and zone XII, have been studied. In the zone I - residual soil maize and zone IX - residual soil groundnut, there are some differences in the sowing period. In the latter, there appear two peaks - one in the first week of June and the second in the 4th week of June and first week of July. This difference is probably associated with two spells of rains or may be connected with the sowing period of the erect and spreading varieties of groundnut, as both of them are grown in different parts of the same zone, but the regions where they are growing have not been delineated. Two peaks of sowing periods are also observed in the zone XII - littoral groundnut-bajra, which is adjacent to zone IX - residual soil groundnut.

As for cotton (Table-4.2), cotton is grown in a large number of zones. Sowing period seems to be little earlier in zone I, zone V and zone VI; the former two with residual soil and the latter with deep black soil. In the latter, there is a general practice of sowing cotton in the dry soil before the commencement of the monsoon. The period of sowing from first week of June to the first week of July, which is common in the zone I, zone II and zone IV is also the case in zone IX. Later sowing seems to be characteristic of zone VIII - clay alluvial cotton/dry wheat and zone VI - loamy sand bajra and in the zone XI - littoral paddy/wal. In zone VIII, initial heavy rains often leads to late sowing of cotton and may even necessitate resowing of the crop in case of heavy rains detrimental to the growing cotton seedlings.

It is seen that in the central zone VIII, most of the sowing of wheat is in the 42nd week to 49th week. In this zone, the durum wheat is predominantly grown. Likewise in the zone X - littoral, durums are cultivated under similar conditions and are sown early. The third zone in which such early sowings of wheat are practiced, is the zone II where wheat usually follows as a second crop after paddy. The optimum time of sowing of irrigated wheat is middle of November and if it is sown earlier, then the germination gets reduced. It will be seen that in all the other zones, where generally aestivum wheat is grown, the sowing is generally between the 45th and 48th week, which is later than is the case with durum wheat.

Variations in harvesting periods

Harvesting of bajra is little earlier in zone V and zone VI where most of the crop get harvested by the first week of October. In all the other zones where bajra is grown, the harvesting is later, where it is, however, mostly completed by the middle of October (Table-4.0 A). The harvesting period of groundnut (Table-4.1 A) follow a pattern similar to

its sowing in zone XII, where there are two peaks of harvest corresponding to the observed two peaks of sowing. In zone I, harvesting of groundnut is mostly completed by mid-November, but in case of zone IX and XII, which are more important groundnut growing area, harvesting is earlier than in zone I. In regard to cotton (Table-4.2A), varietywise harvest period is not available and therefore, it is difficult to explain many of the variations observed in the harvesting period of cotton. The first picking begins in about the second week of December in zone I and in the 4th week of December in zone II both growing the same variety, while in zone V & VI, first picking begins in the first week of January. In zone V, the first picking is concentrated in the month of January. Picking is little later in zone IV - deep black soil cotton, and the adjoining zone X. In zone VI, also picking is a little later. For a crop which has such a staggered harvesting period, it is very difficult to distinguish the commencement of harvest in various crop zones. Nevertheless, an attempt is made to note the main differences.

As the sowings are completed earlier in zones growing durums, the wheat ^{harvest} also begins earlier there. The earliest wheat harvest is in zone II. It falls between 3rd week of February to 3rd week of March (8th to 12th week). In the littoral zone X also, the harvest is between 2nd week of February to 1st week of March (7th to 10th week). In the other zones where aestivum varieties are dominant, the harvest usually falls between 1st week of March to 4th week of March (10th to 13th week). The harvest period is little earlier in the zone IX growing aestivum wheat unlike the rest of the state growing this wheat. This is attributable to the inadequacy of water in the latter part of the growing period and consequent forced ripening of the crop. In general, however, most of the wheat varieties belong to aestivum group, and the largest coverage is by these varieties. The main harvest period of wheat for the state can, therefore, be considered for 4th week of February to 4th week of March (9th to 13th week).

Summary

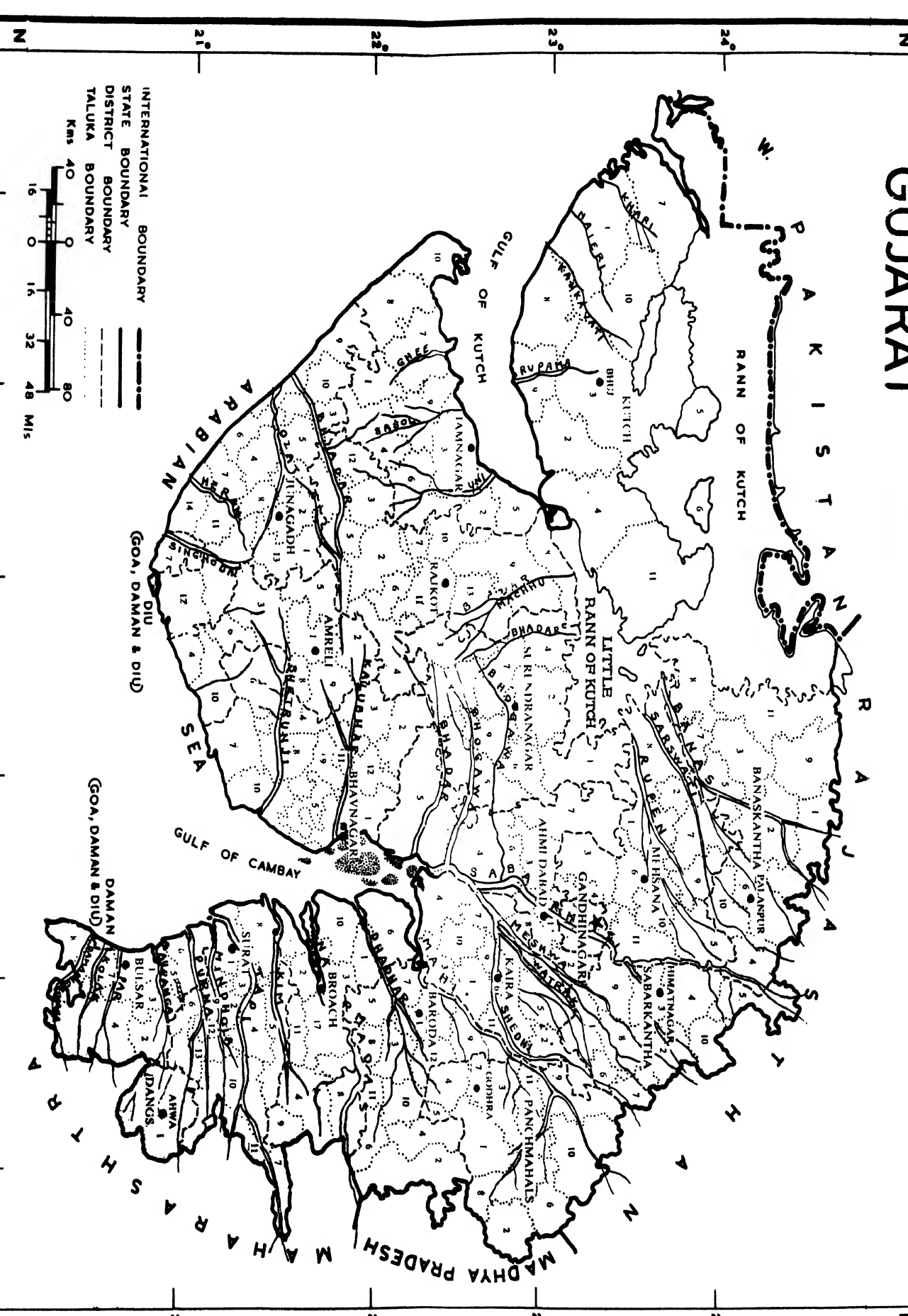
A need has been felt to examine the cropping pattern prevailing in various parts of Gujarat state and to delineate zones with homogenous characteristics. In doing so, a general description of the geology of Gujarat, the characteristics of rainfall, temperature, soils and relative humidity pattern prevailing in the state have been described. The smallest unit used for delineation of zones is a taluka, for which crop area statistics are available. The crops have been grouped in 4 categories viz. Group A short duration kharif crops; Group B long duration kharif crops; Group C rabi crops; Group D others which includes many perennial crops. The predominance of a group of crop is related to the soil and rainfall conditions. In addition, it has become necessary to pick out one or two characteristic crops of the area, some times even though, it may not have the largest acreage. This enables identification of the crop zone more readily. Using the crop statistics of these groups of crops prevailing

in the talukas, 12 crop zones have been defined. These are - zone I residual soil maize zone, zone II residual soil cotton zone, zone III residual soil paddy zone, zone IV deep black soil cotton zone, zone V sandy loam soil bajra tobacco, zone VI loamy sand bajra cotton, zone VII sandy soil bajra pulses, zone VIII clay alluvial cotton dry wheat, zone IX residual soil groundnut, zone X littoral cotton dry wheat, zone XI littoral paddy wal, zone XII littoral groundnut bajra.

The textural classification of soils from samples available from all sources collected for the purposes other than demarkating zones have been presented. The differences thereof prevailing in various zones have been used at some places to identify certain zones. In addition, available data of sowing and harvesting periods of major crops have been collected and the periods of sowings of these crops in the various zones and in the state, have been described and the differences observed have been noted. Likewise, the average weekly maximum and minimum temperature and the weekly relative humidity for the state are given along with the information available for some zones. Certain differences which were observed in this regard have also been discussed.

Acknowledgement

Describing the crop zones of a state like Gujarat, which has great diversity, is a task which cannot be fulfilled by an individual or two. For writing this article, support had to be sought from many people both in the department of agriculture and outside. Without their cooperation this voluminous work would not have been completed even in time longer than it took to do so. Particular mention is made of Dr. M. V. Kanjaria, the Soil Specialist, Agricultural University, Shri R. G. Desai, Soil Survey Officer. The textural classification of soils though was mainly obtained from the Soil Specialist, Junagadh & the Soil Survey Officer, Navsari, the available data with the soil survey organization of the P.W.D. was also used, for which thanks are due to Shri Bapat. Last, but of even greater importance are the many persons in the statistics branch of this directorate. This section is so large that the entire list of persons, who have helped us in completing this work, would be unwieldy. Nevertheless, the help rendered by Shri M. C. Majmudar, Shri V. G. Ballar, & Shri B. M. Patel is acknowledged with grateful gratitude. Grateful thanks are due to Shri R. S. Patel, who had initially drawn all the graphs presented here. The information section of the directorate have used all their energy in getting the bulletin printed in a short time.

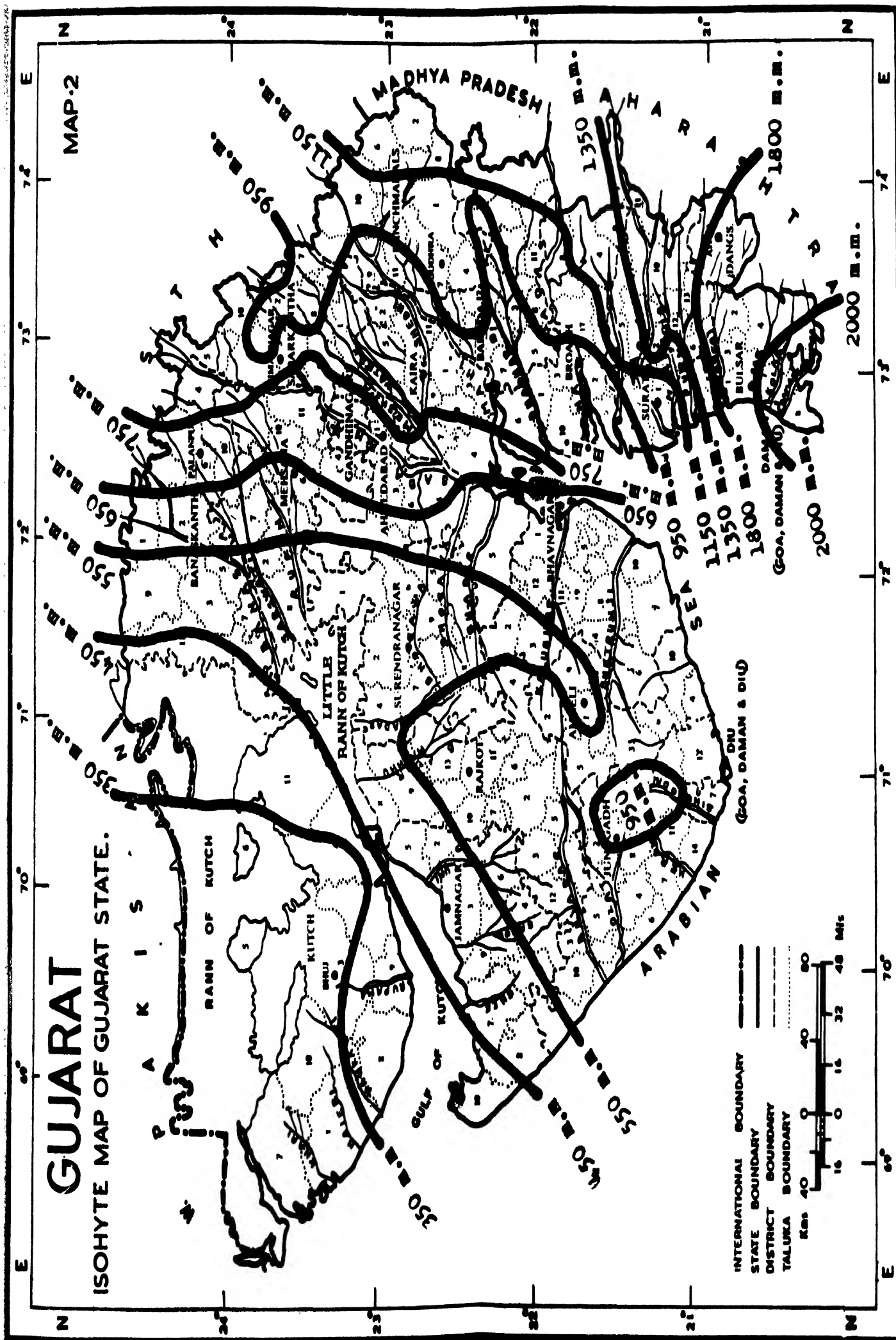
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OVER LEAF : Map of Gujarat showing physical features. VTRs indicate altitude in meters from sea level.
The numbers are indicative of talukas as listed below.

AHMEDABAD :		BULSAR :		VELHSANA :	
1 Citv	5 Dhandhuka	1 Valsad	5 Gandevi	1 Chanasma	7 Patan
2 Dehgam	6 Sanand	2 Vansda	6 Navsari	2 Harih	8 Sami
3 Daskroi	7 Viramgam	3 Chikhli	7 Pardi	3 Kadi	9 Sidhpur
4 Dholka		4 Dharampur	8 Limbargaon	4 Kalol	10 Visnagar
AMRELI :		DANGS : 1 Ahwa		5 Kheralu	11 Vijapur
1 Amreli	6 Khamba	GANDHINAGAR :		6 Mehsana	
2 Babra	7 Kodinar	1 Gandhinagar (State Capital)		PANCHMAHALS :	
3 Dhari	8 Lathi	JAMNAGAR :		1 Deogad-Baria	7 Kalol
4 Jafraabad	9 Liti	1 Bhanwad	6 Kalawad	2 Dahod	8 Limkheda
5 Kunkawav	10 Rajula	2 Dhrol	7 Khambhalia	3 Godhra	9 Lunawada
BARODA :		3 Jamnagar	8 Kalyanpur	4 Halol	10 Santramampur
1 Vadodara	7 Padra	4 Jam-Jodhpur	9 Lalpur	5 Jambughoda	11 Shehra
2 Chhota-Udepur	8 Sinor	5 Jodia	10 Okhamandal	6 Jhalod	
3 Dabhoi	9 Savi	JUNAGADH :		RAJKOT :	
4 Jambugam	10 Sankheda	1 Bhesan	8 Mendarda	1 Dhoraji	8 Malia
5 Karjan	11 Tilakwada	2 Junagadh	9 Porbandar	2 Gondal	9 Morvi
6 Naswadi	12 Waghodia	3 Kutiyana	10 Ranawao	3 Jam-Kandorna	10 Paddhari
BROACH :		4 Keshod	11 Talala	4 Jsdan	11 Rajkot
1 Amod	7 Jhagadia	5 Manavadar	12 Una	5 Jelpur	12 Upleta
2 Ankleshwar	8 Nandod	6 Mangrol	13 Visavadar	6 Korda-Sangani	13 Wankaner
3 Bharuch	9 Sagbara	7 Malia	14 Veraval	7 Lodhika	
4 Dediapada	10 Vagra	KAIRA :		SABARKANTHA :	
5 Hansot	11 Vatia	1 Anand	7 Matar	1 Bayad	6 Malpur
6 Jambusar		2 Balasinor	8 Mehmudabad	2 Phuloda	7 Meghraj
BHAVNAGAR :		3 Borsad	9 Nadiad	3 Himatnagar	8 Modasa
1 Bhavnagar	7 Mahuva	4 Khambhat	10 Petlad	4 Idar	9 Prantij
2 Botad	8 Patitana	5 Kapadvanj	11 Thasra	5 Ishebdrabma	10 Vijaynagar
3 Gadhada	9 Sihor	6 Kheda		SURAT :	
4 Gariadhar	10 Talaja	KUTCH :		1 Chorvasi	8 Olpad
5 Ghogha	11 Umrata	1 Abdassa	7 Lakpat	2 Bardoli	9 Palsana
6 Kundla	12 Vallabhipur	2 Anjar	8 Mandvi	3 Kamrej	10 Songadh
BANSKANTHIA :		3 Bhuj	9 Mundra	4 Mandvi	11 Uchhal
1 Dhanera	7 Radhanpur	4 Bhachau	10 Nakhatrana	5 Mangrol	12 Valod
2 Deesa	8 Santhalpur	5 Khavda	11 Rapar	6 Mahuva	13 Vyara
3 Deodar	9 Tharad	6 Khadir		7 Nizar	
4 Danta	10 Wadgam	SURENDRANAGAR :			
5 Kankrej	11 Wao	1 Dasada	6 Lakhtar		
6 Palanpur		2 Dhrangadhra	7 Muli		
		3 Chotila	8 Sayla		
		4 Halvad	9 Wadhwan		
		5 Limbdi			

ISOHYTE MAP OF GUJARAT STATE.

MAP.2



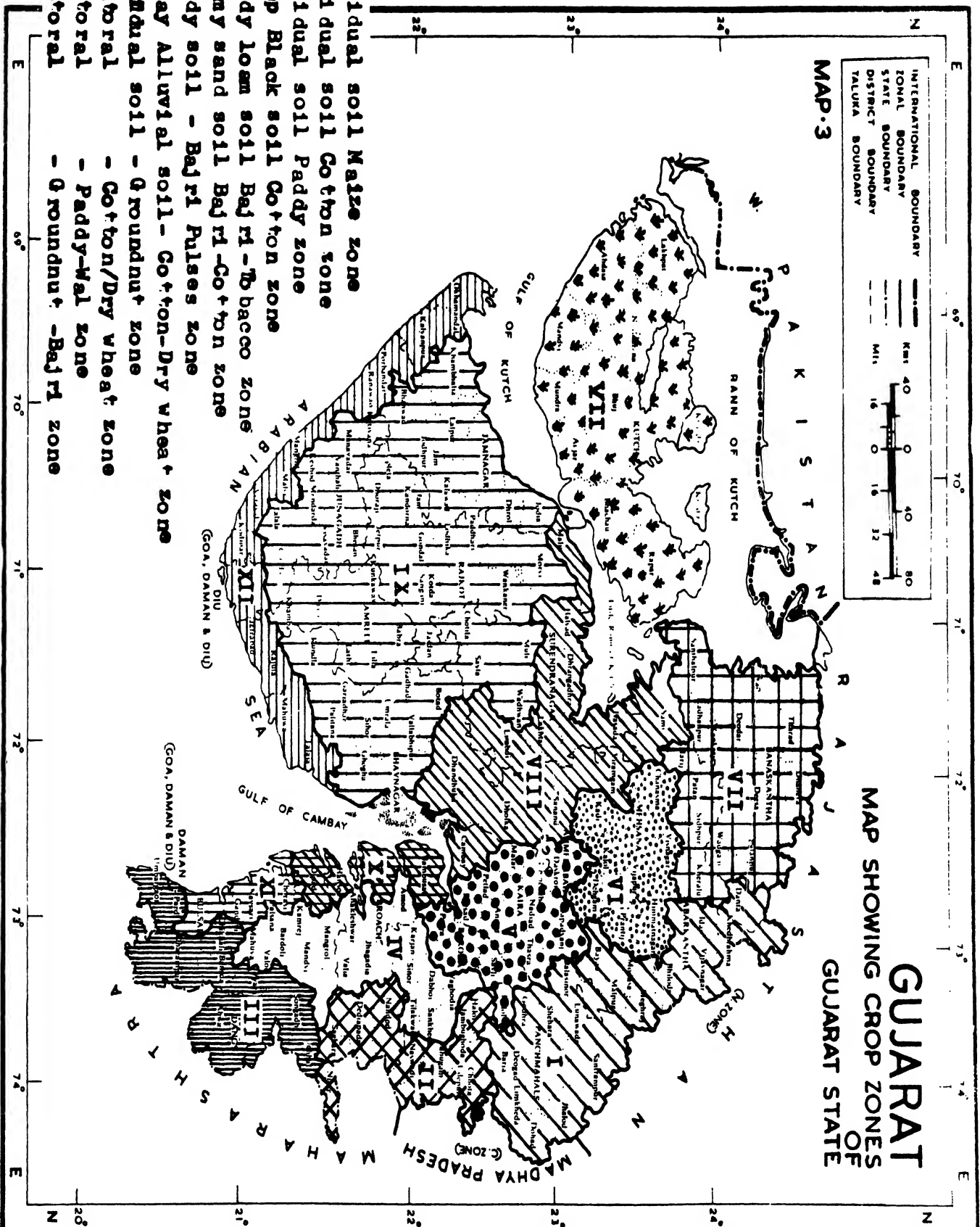
MAP.3



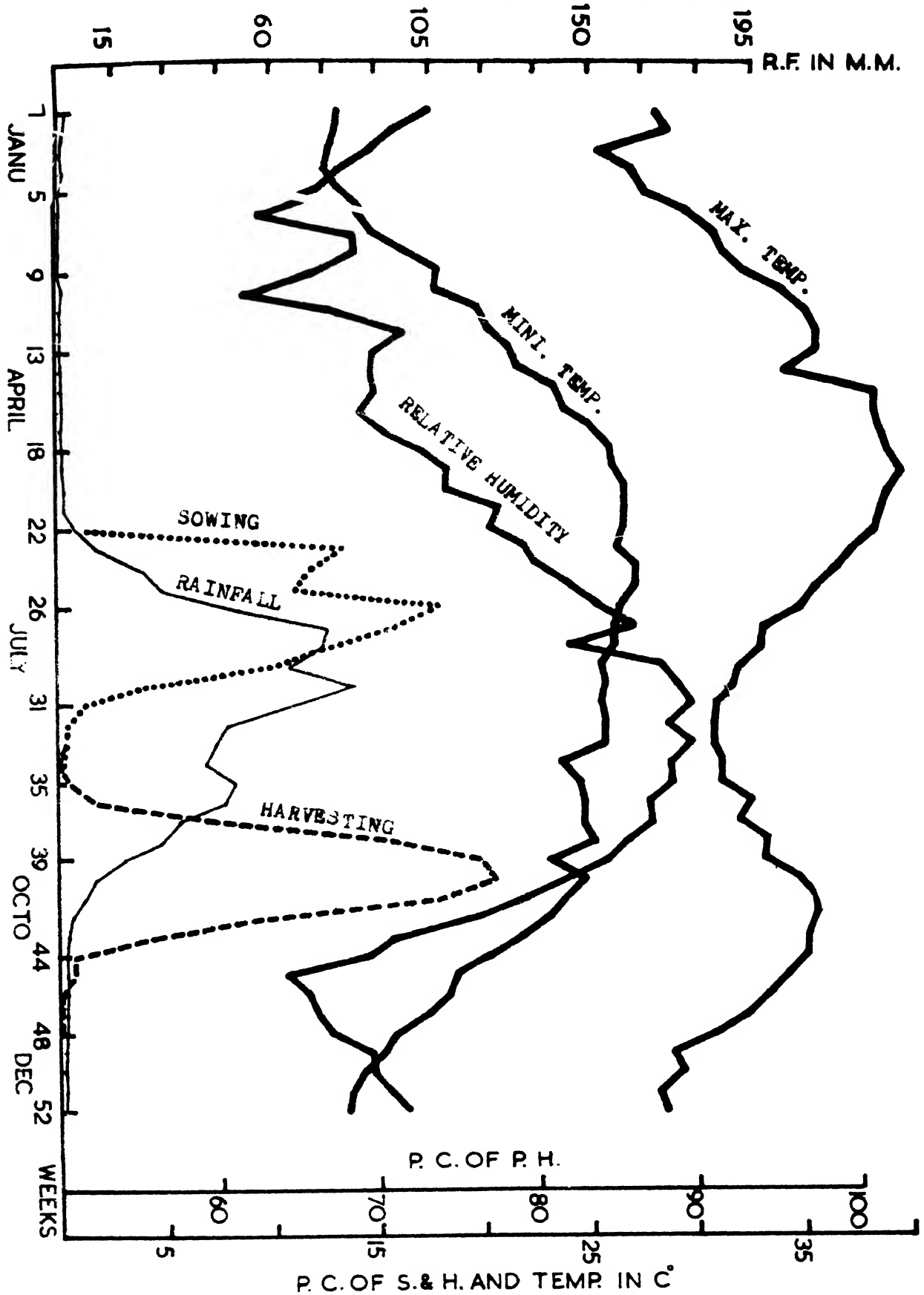
GUJARAT

MAP SHOWING CROP ZONES OF GUJARAT STATE

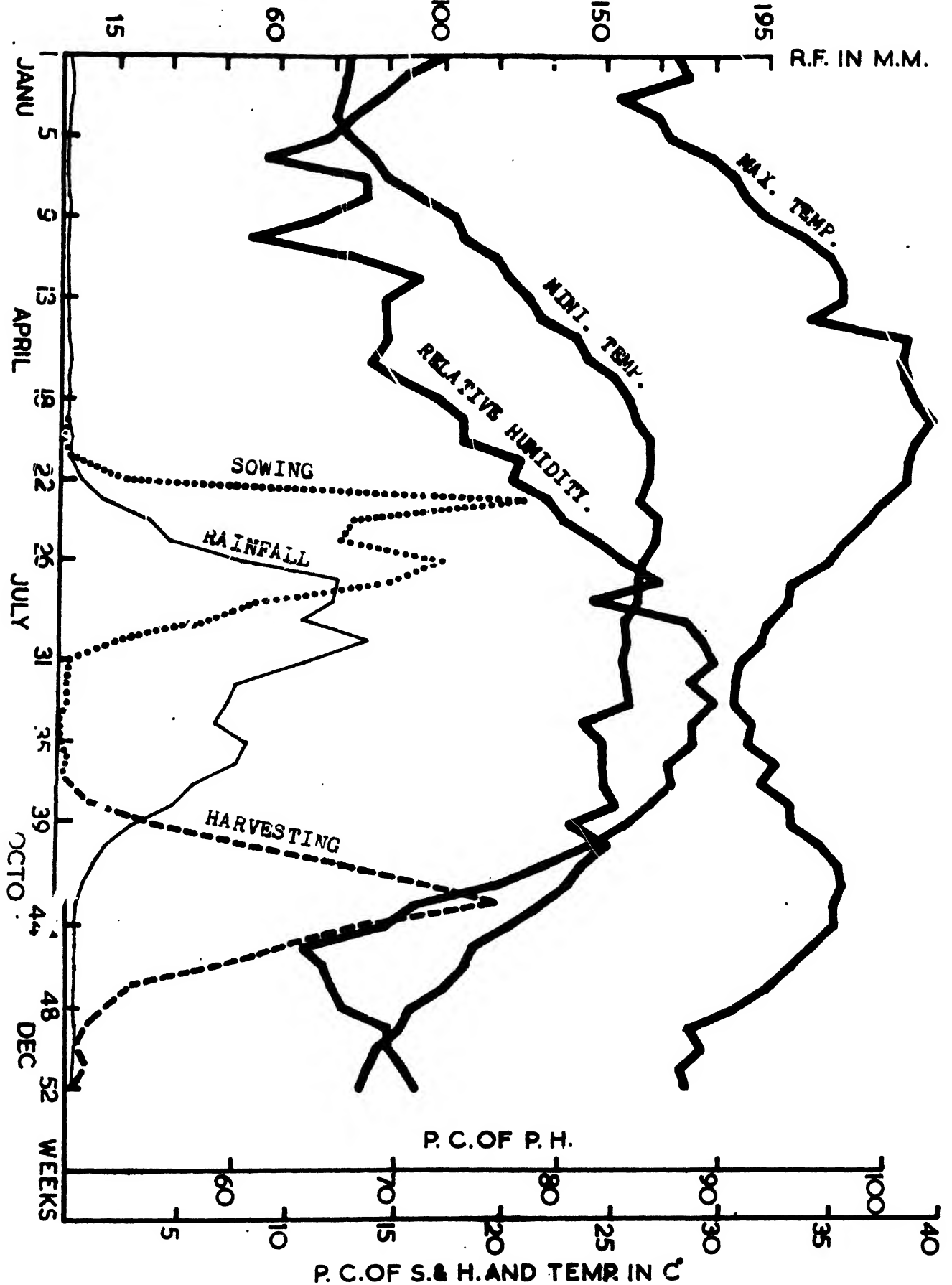
- Ref:**
- Zone-I Residual soil Maize zone
 - Zone-II Residual soil Cotton zone
 - Zone-III Residual soil Paddy zone
 - Zone-IV Deep Black soil Cotton zone
 - Zone-V Sandy loam soil Bajri - Tobacco zone
 - Zone-VI Loamy sand soil Bajri - Cotton zone
 - Zone-VII Sandy soil - Bajri Pulses zone
 - Zone-VIII Clay Alluvial soil - Cotton-Dry wheat zone
 - Zone-IX Residual soil - Groundnut zone
 - Zone-X Littoral - Cotton/Dry wheat zone
 - Zone-XI Littoral - Paddy-Wal zone
 - Zone-XII Littoral - Groundnut - Bajri zone



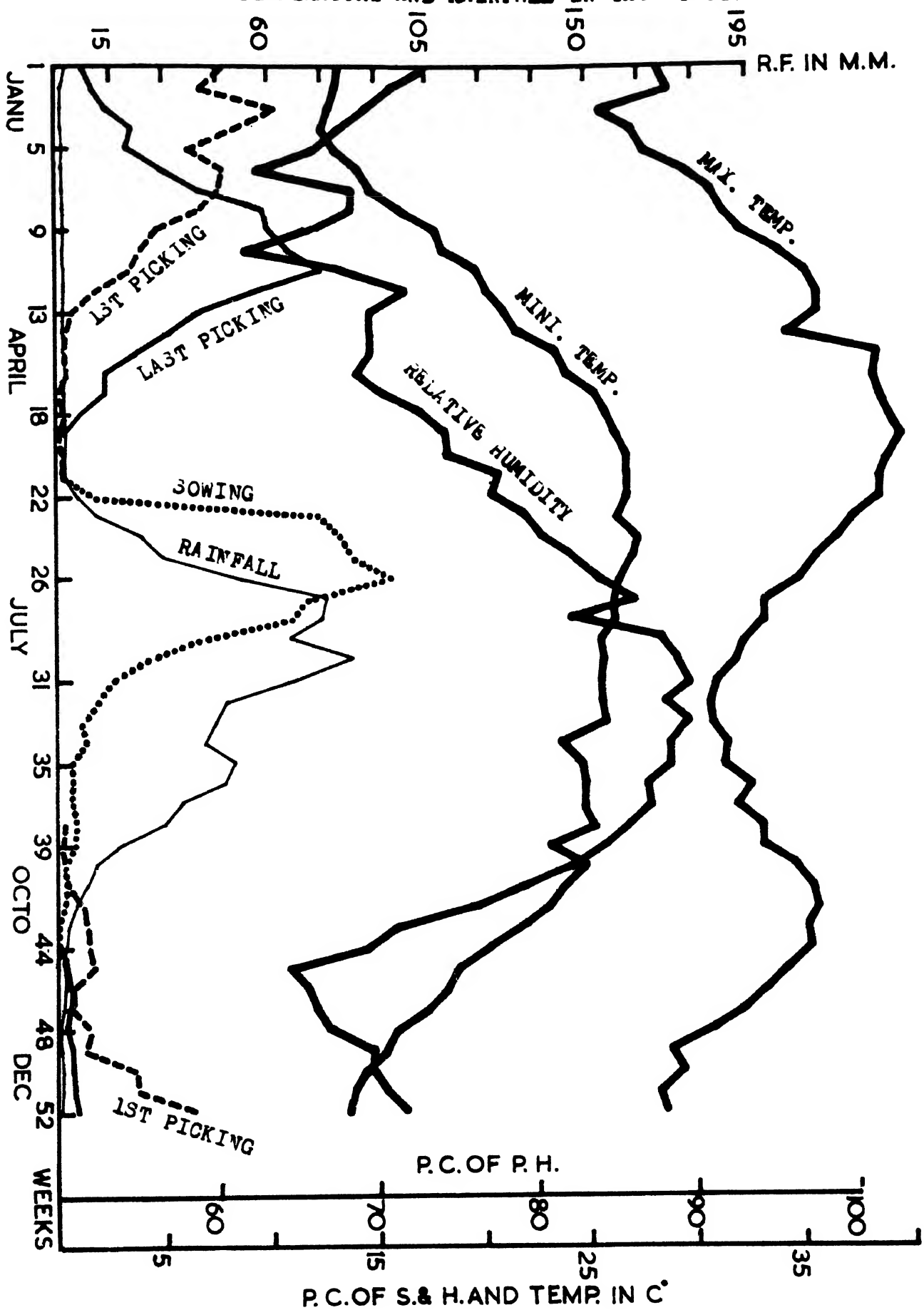
A 1. GRAPH SHOWING WEEKWISE SOWING AND HARVESTING OF SAJRI, ALONG WITH AVERAGE WEEKLY MAXIMUM AND MINIMUM TEMPERATURE AND RAINFALL IN THE STATE.



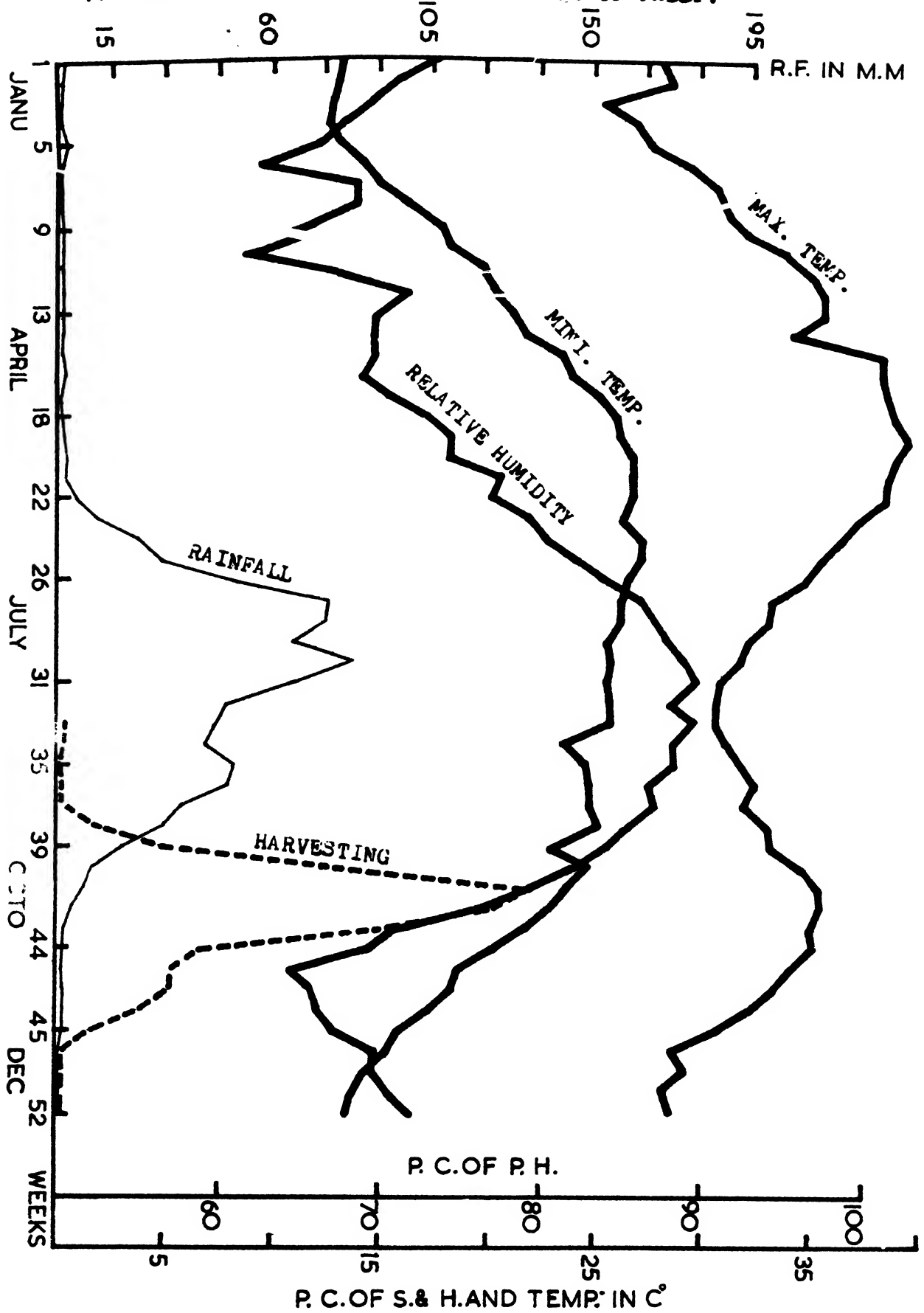
A 2. GRAPH SHOWING WEEKWISE SOWING AND HARVESTING OF GROUNDNUT, ALONG WITH AVERAGE WEEKLY MAXIMUM AND MINIMUM TEMPERATURE AND RAINFALL IN THE STATE.



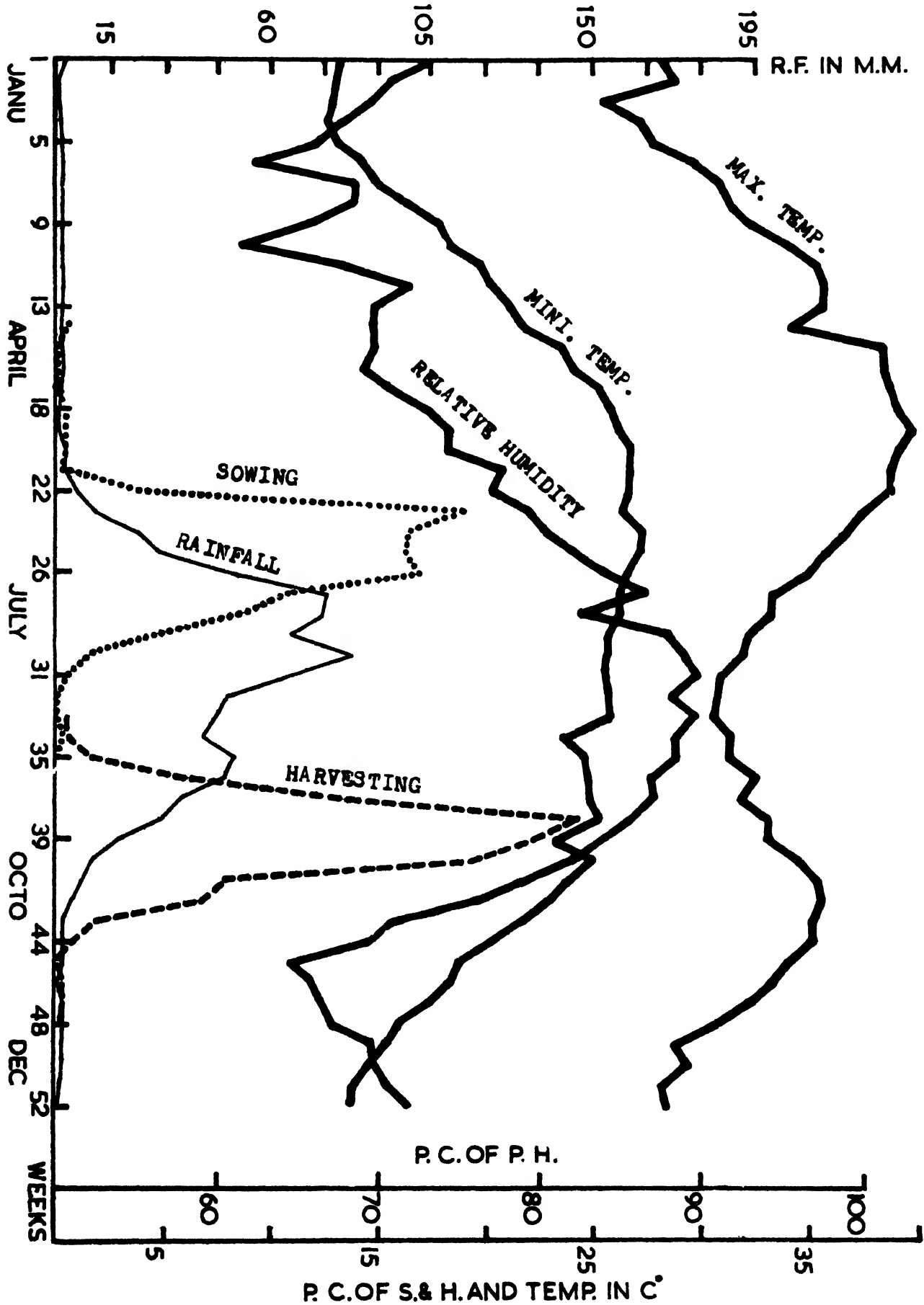
A 3. GRAPH SHOWING WEEKWISE SOWING AND HARVESTING OF COTTON, ALONGWITH AVERAGE WEEKLY MAXIMUM AND MINIMUM TEMPERATURE AND RAINFALL IN THE STATE.



A 4. GRAPH SHOWING WEEKWISE HARVESTING OF PADDY.

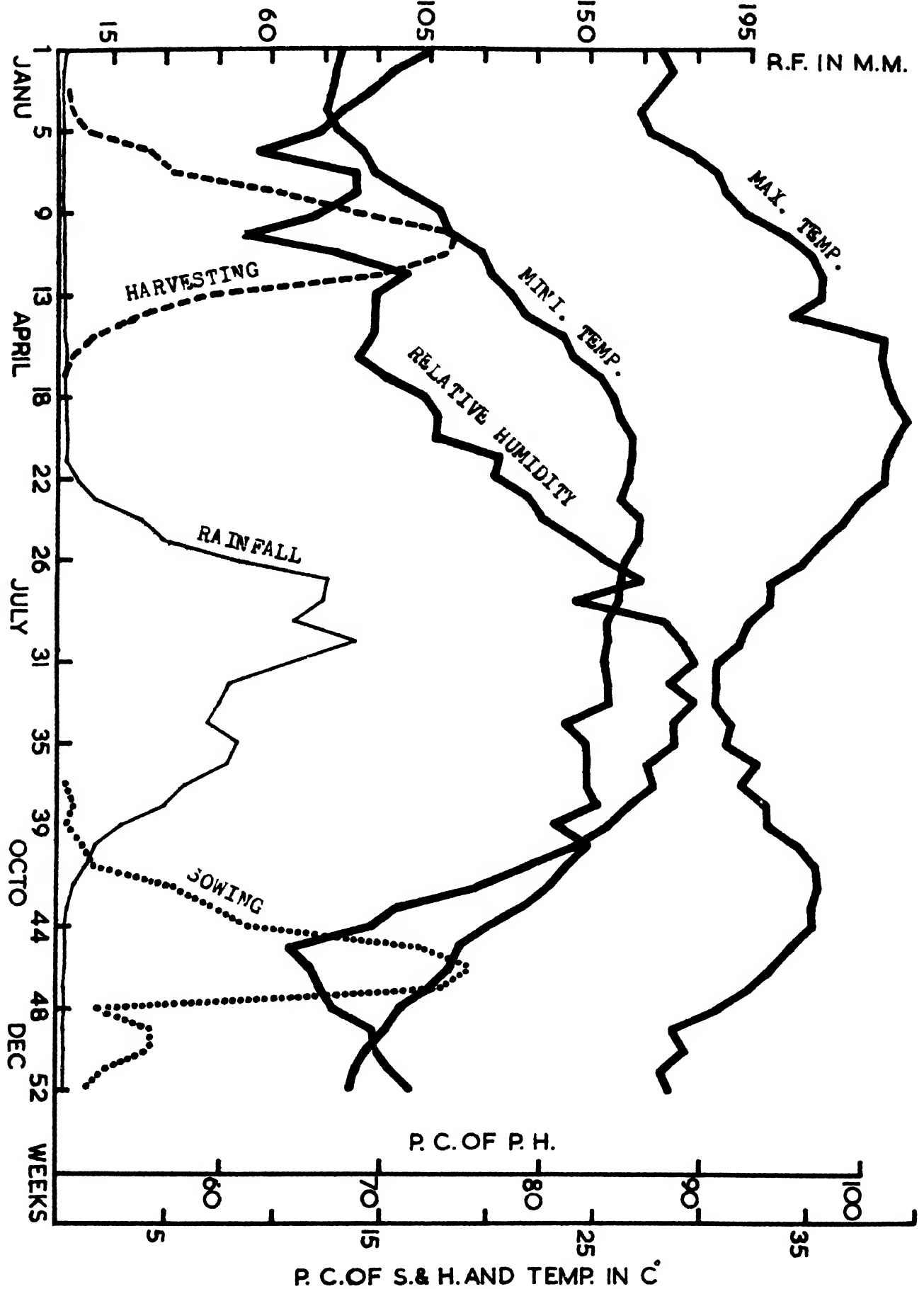


A 5. GRAPH SHOWING WEEKWISE SOWING AND HARVESTING OF MAIZE, ALONG WITH AVERAGE WEEKLY MAXIMUM AND MINIMUM TEMPERATURE AND RAINFALL IN THE STATE.

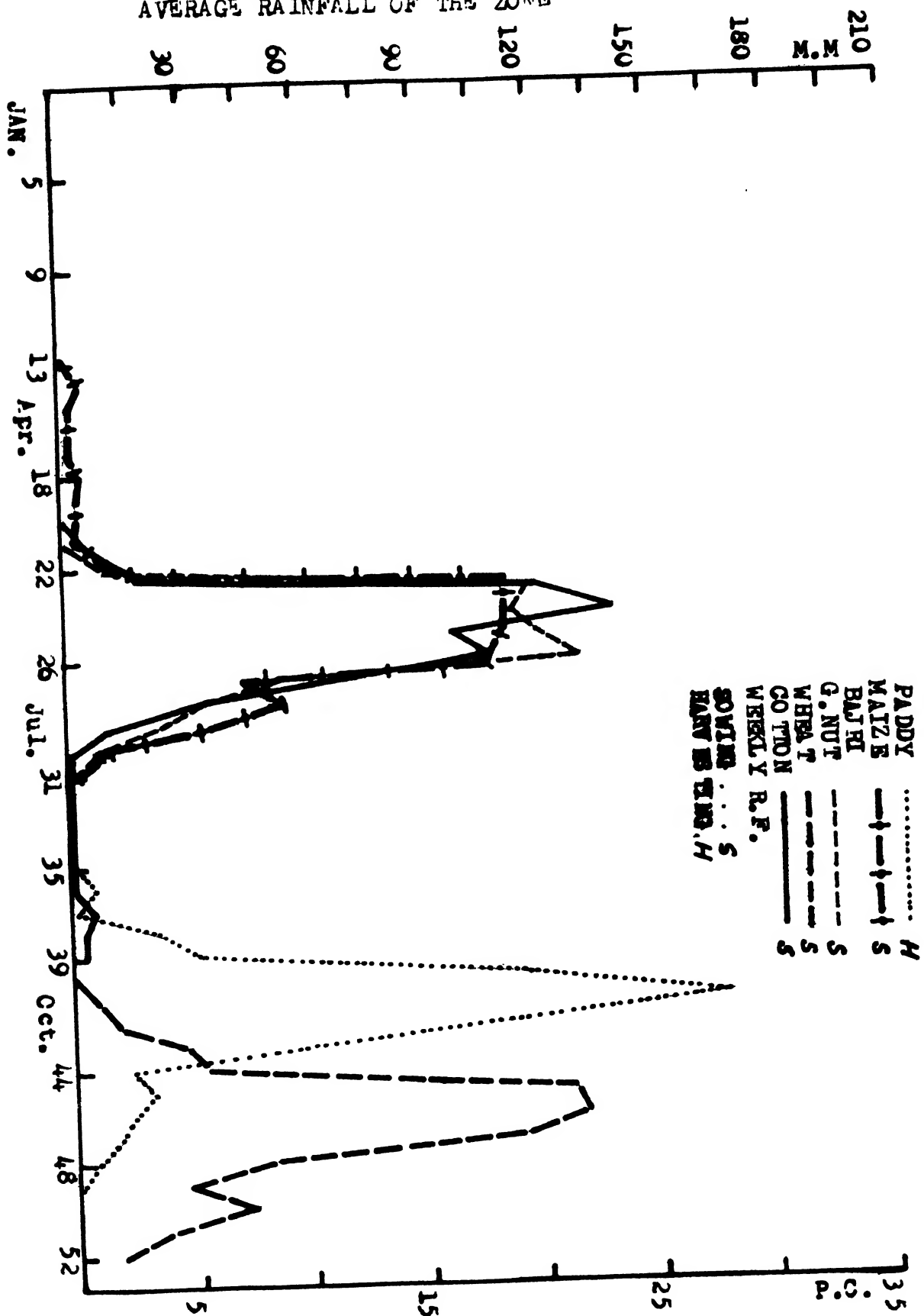


IX

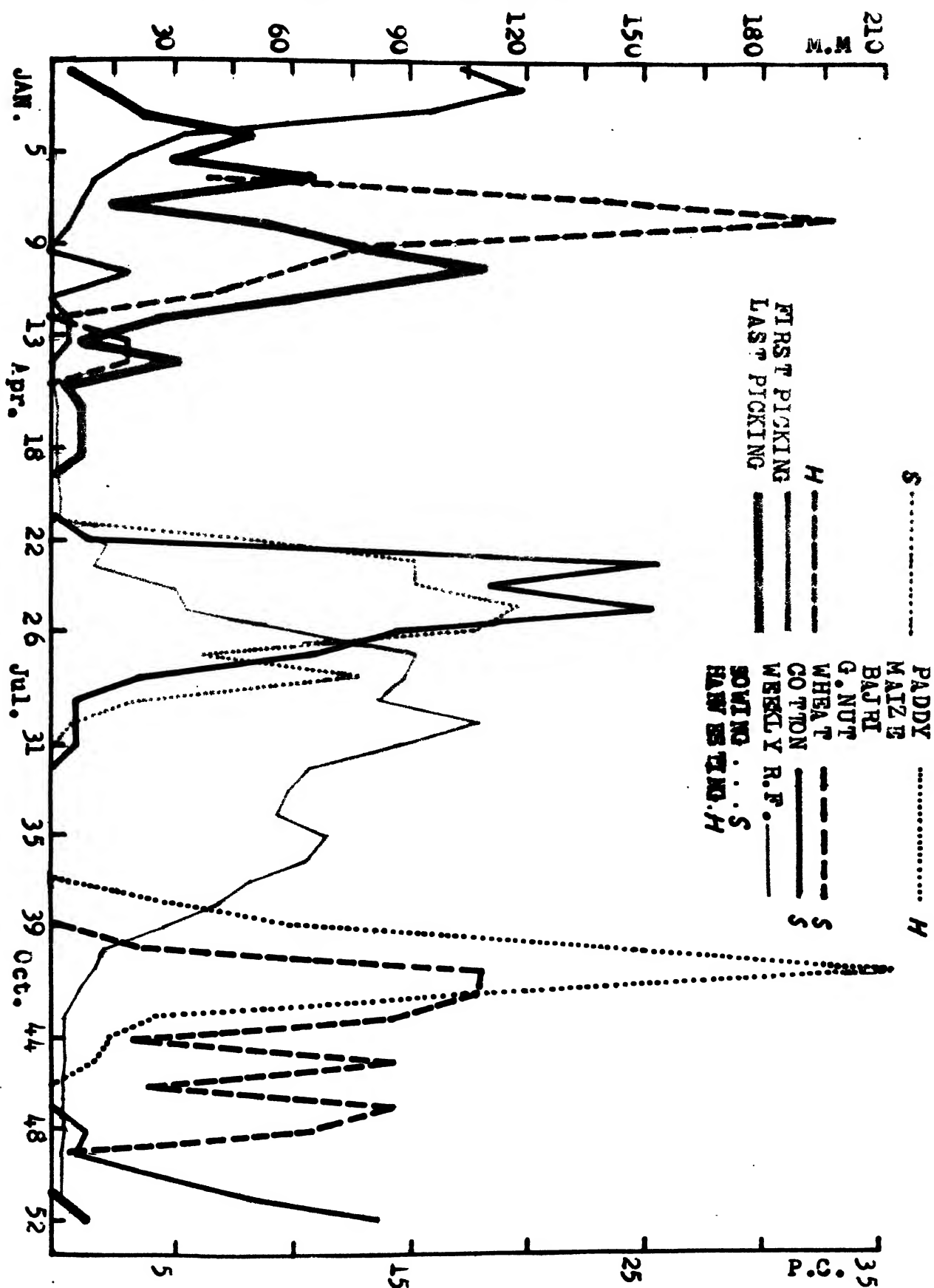
A 6. GRAPH SHOWING WEEKWISE SOWING AND HARVESTING OF WHEAT, ALONGWITH AVERAGE WEEKLY MAXIMUM AND MINIMUM, TEMPERATURE AND RAINFALL IN THE STATE.



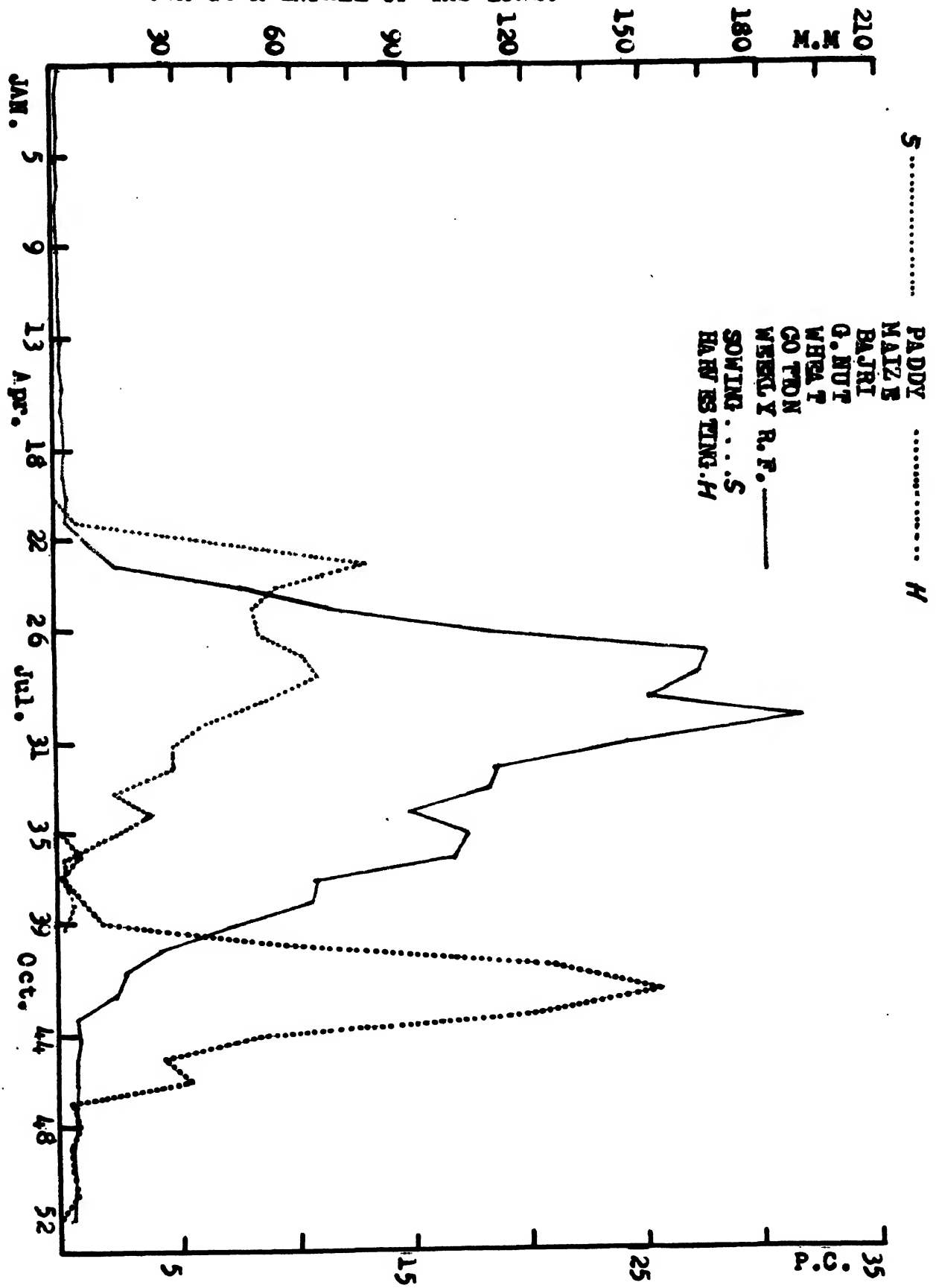
B 01 ZONE I. RESIDUAL SOIL-MAIZE ZONE.
 GRAPH SHOWING WEEKWISE SOILING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH THE
 AVERAGE RAINFALL OF THE ZONE



B 02 ZONE II RESIDUAL SOIL-COTTON ZONE. XI
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

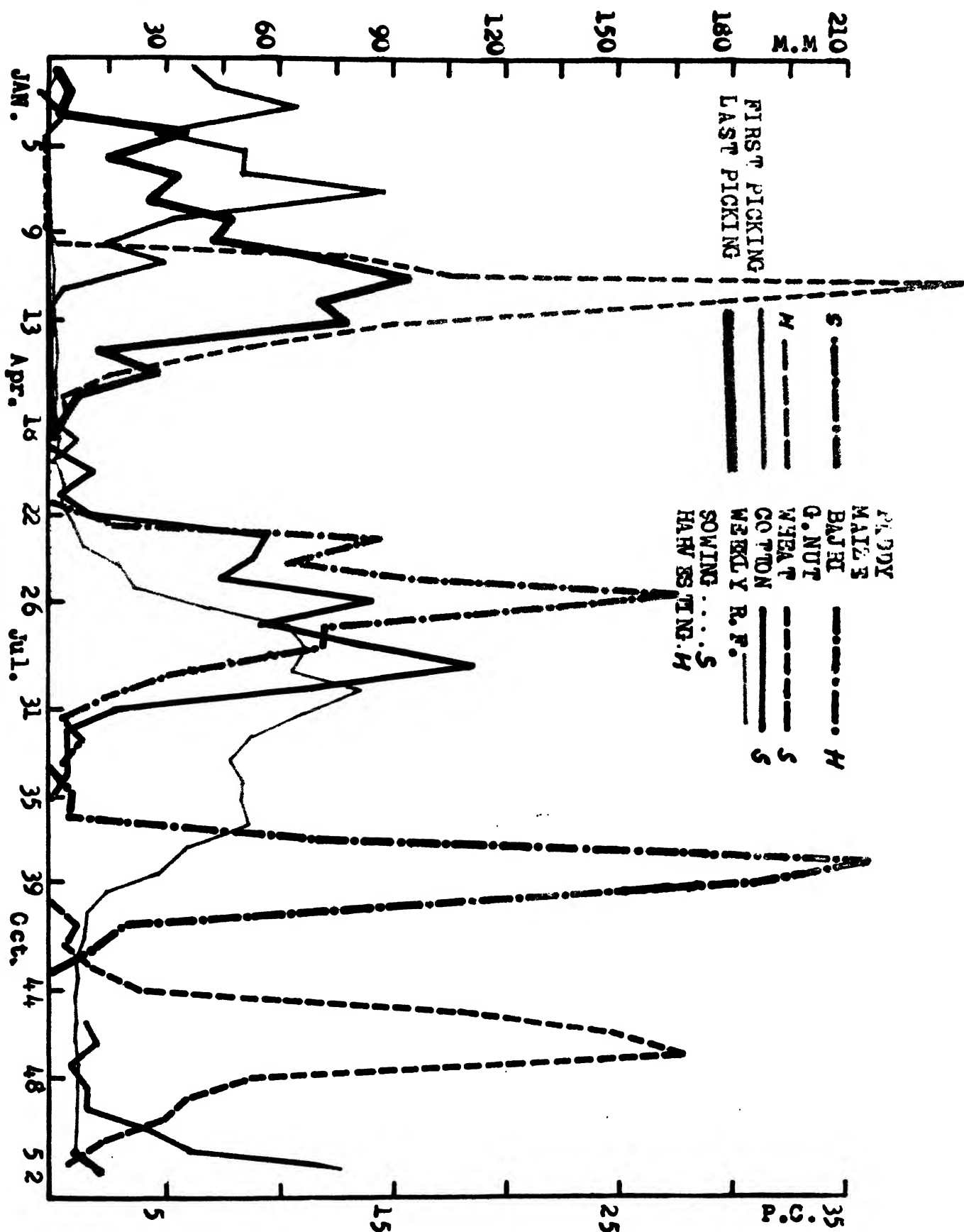


B 03 ZONE III RESIDUAL SOIL-PADDY ZONE. XII
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

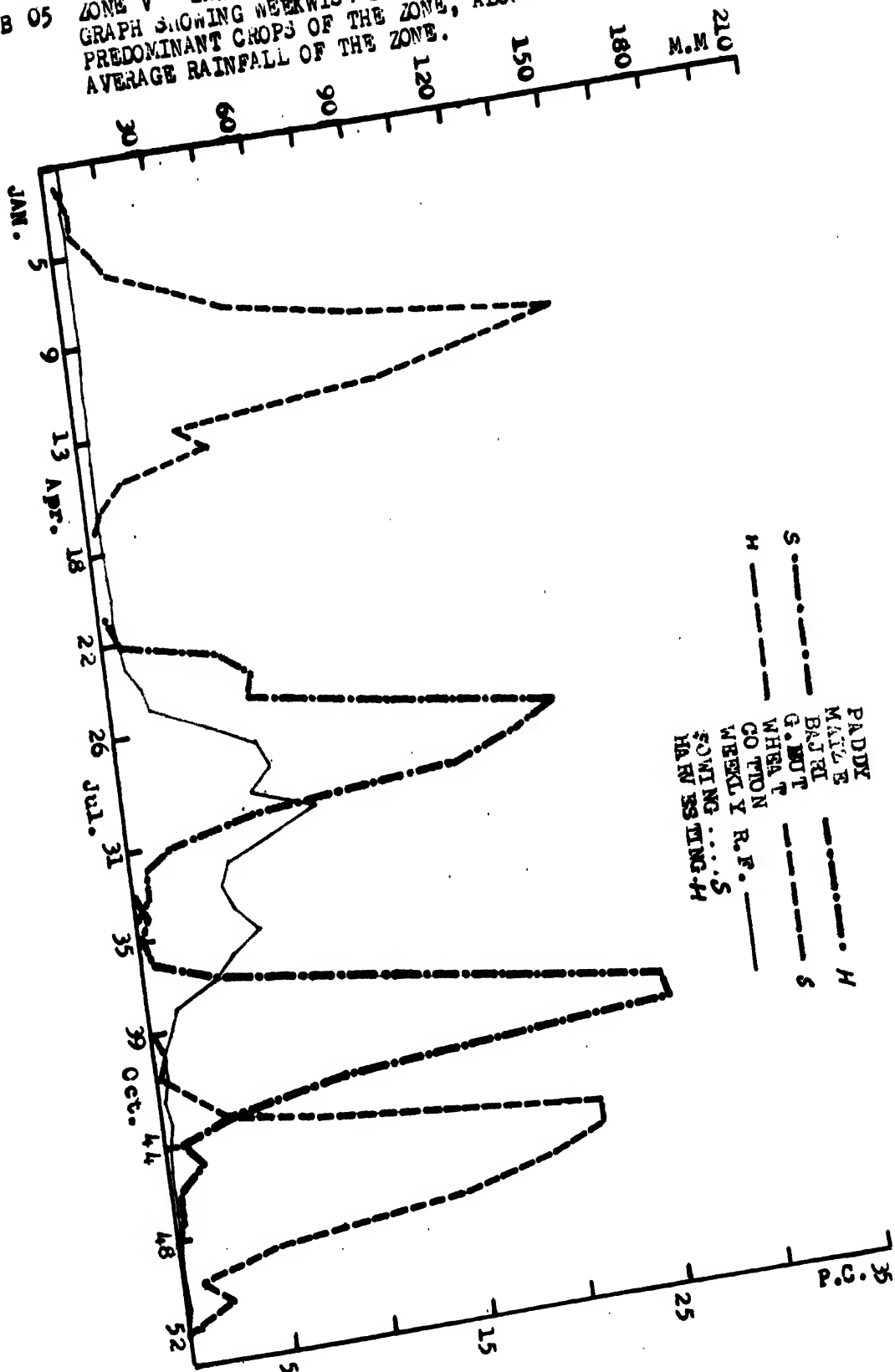


B 94 ZONE IV DEEP BLACK SOIL-COTTON ZONE.
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

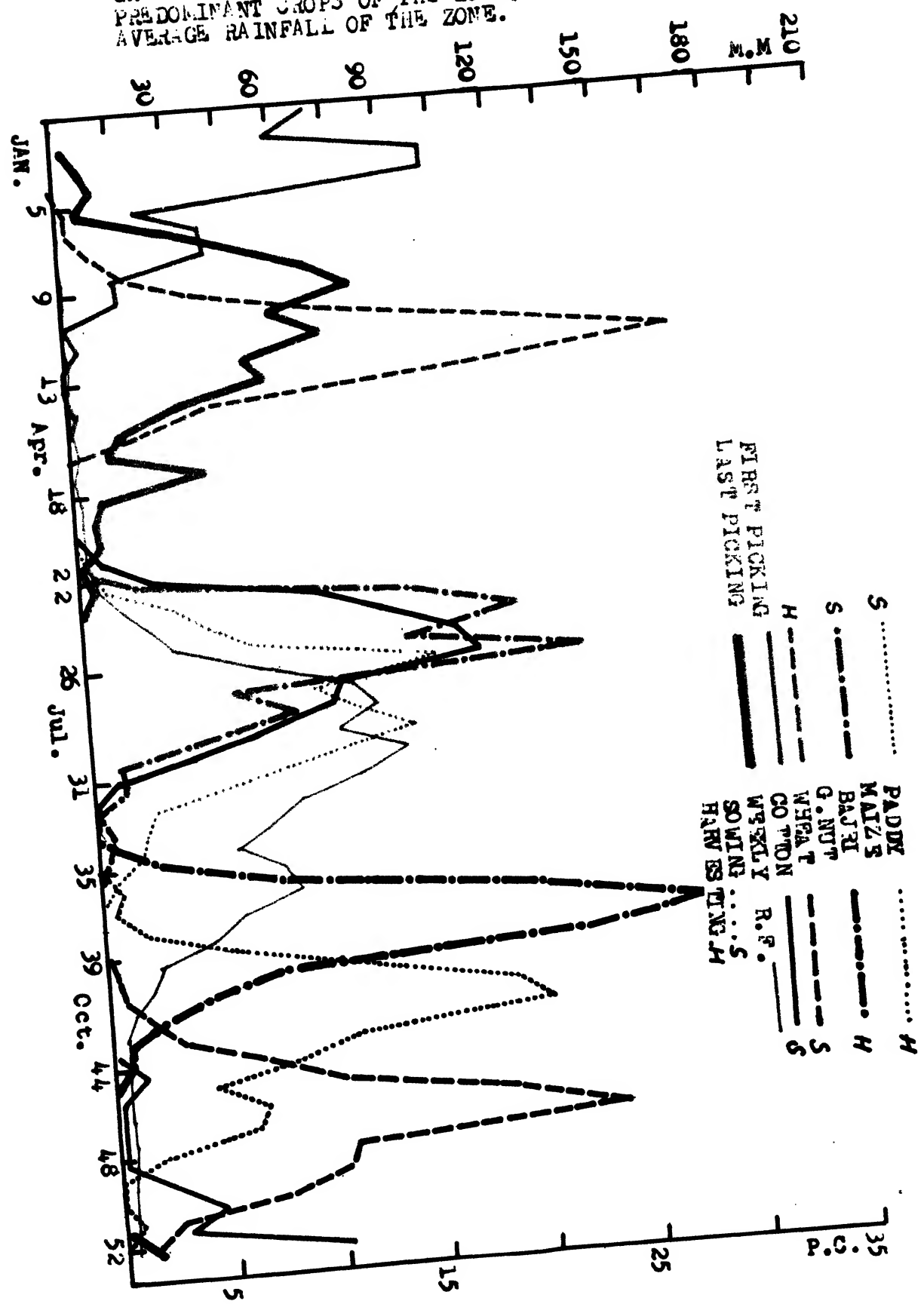
XIII



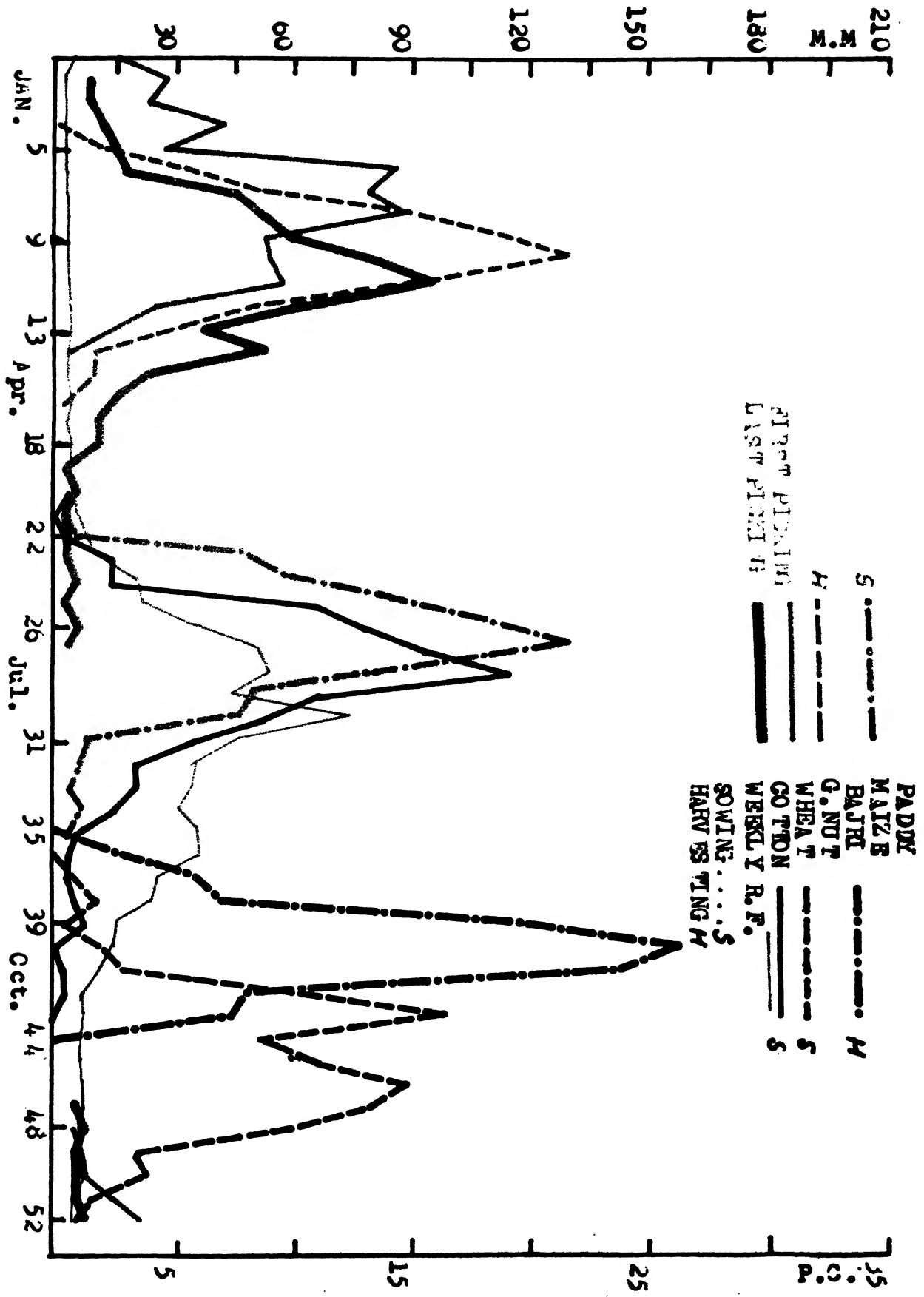
B 05 ZONE V. SANDY LOAM SOIL-BAJRI-TOBACCO ZONE. XIV
 GRAPH SHOWING WEEKWISE, SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.



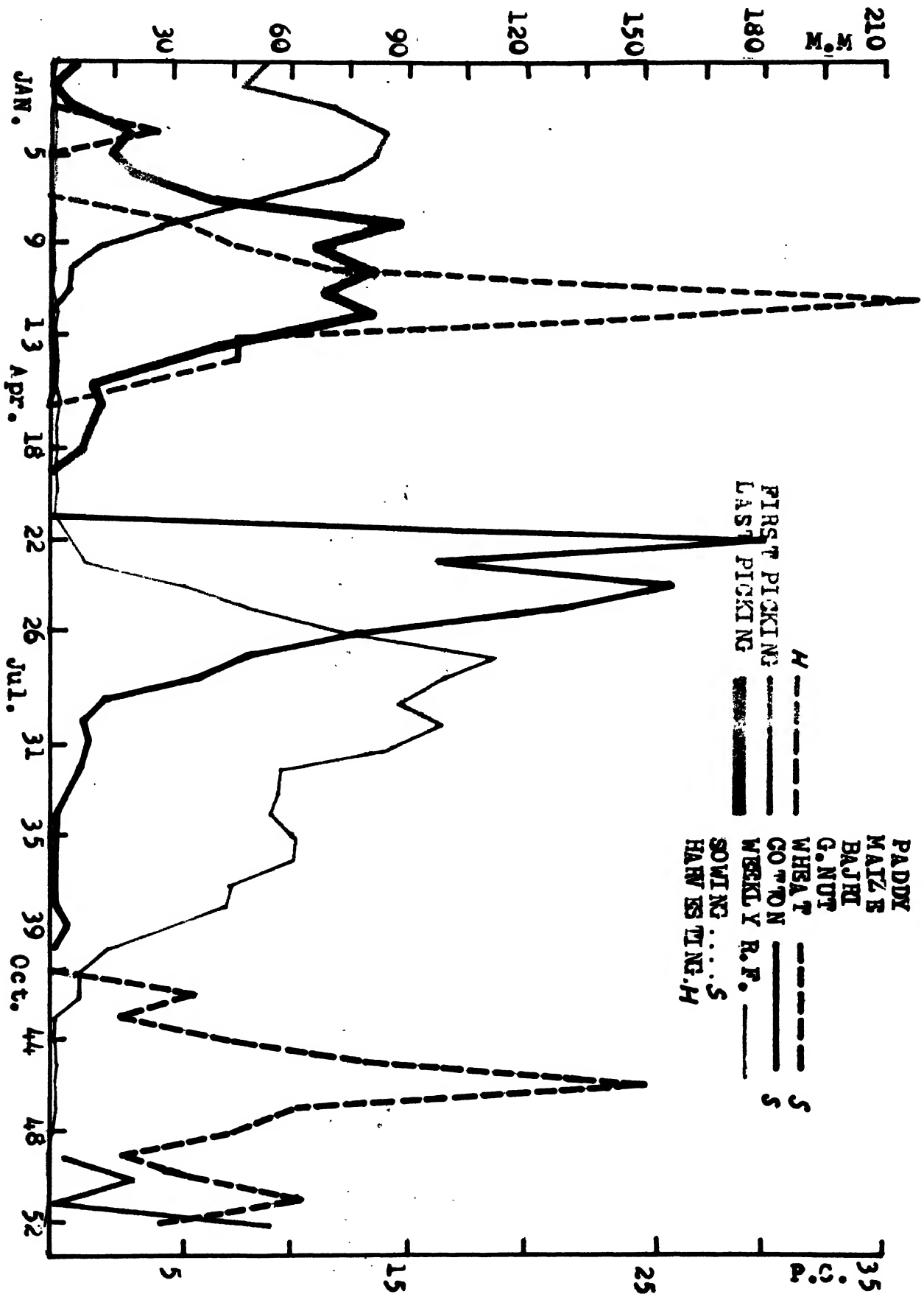
B 06 ZONE VI LOAMY SAND SOIL-BAJRI-COTTON ZONE. XV
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.



B 57 ZONE VII SANDY SOIL-BAJRI-PULSES ZONE. XVI
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

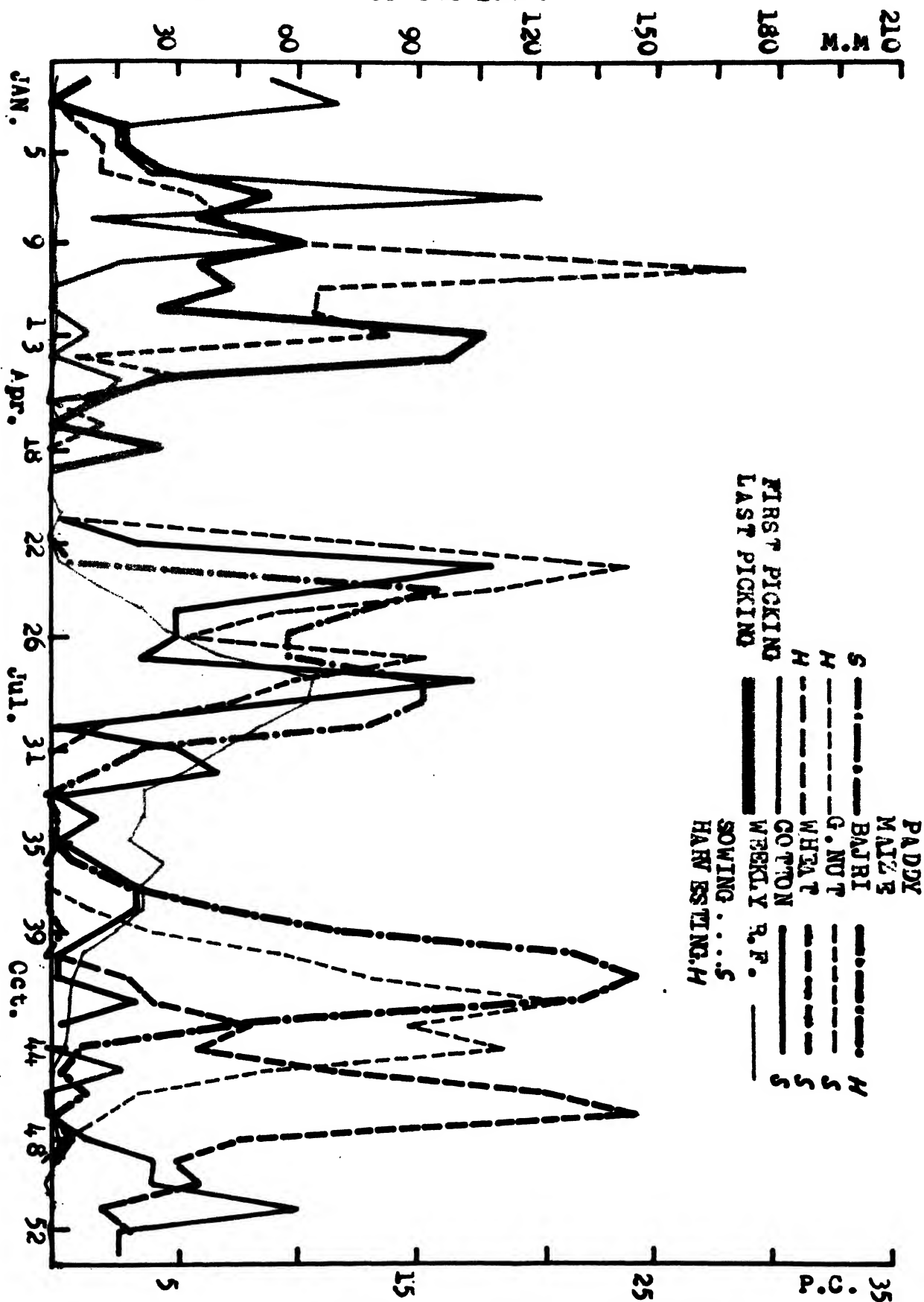


8 08 ZONE VIII CLAY ALLUVIAL SOIL-COTTON/DRY WHEAT ZONE.
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

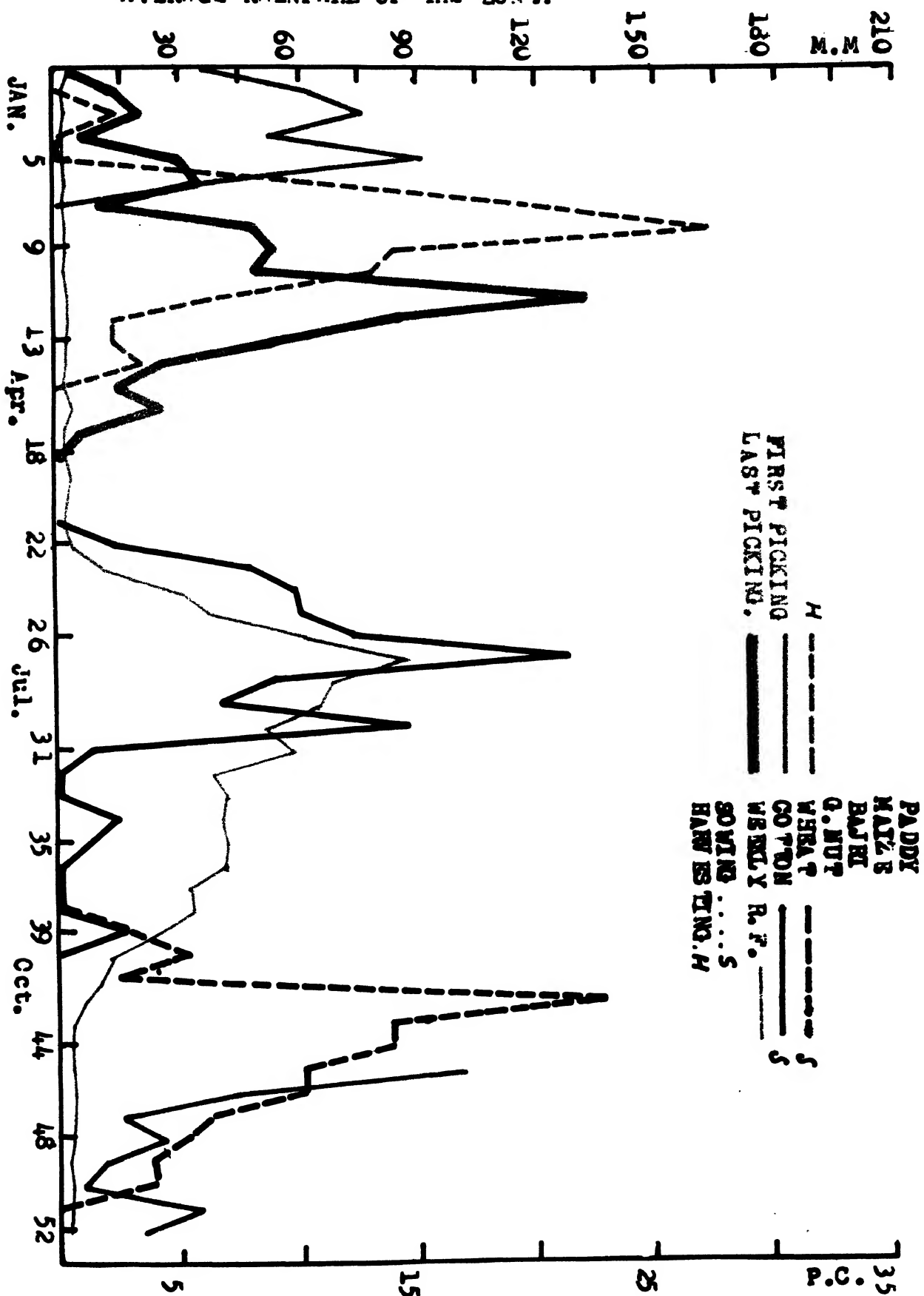


B 09 ZONE IX RESIDUAL SOIL-GROUNDWATER ZONE.
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

XVIII

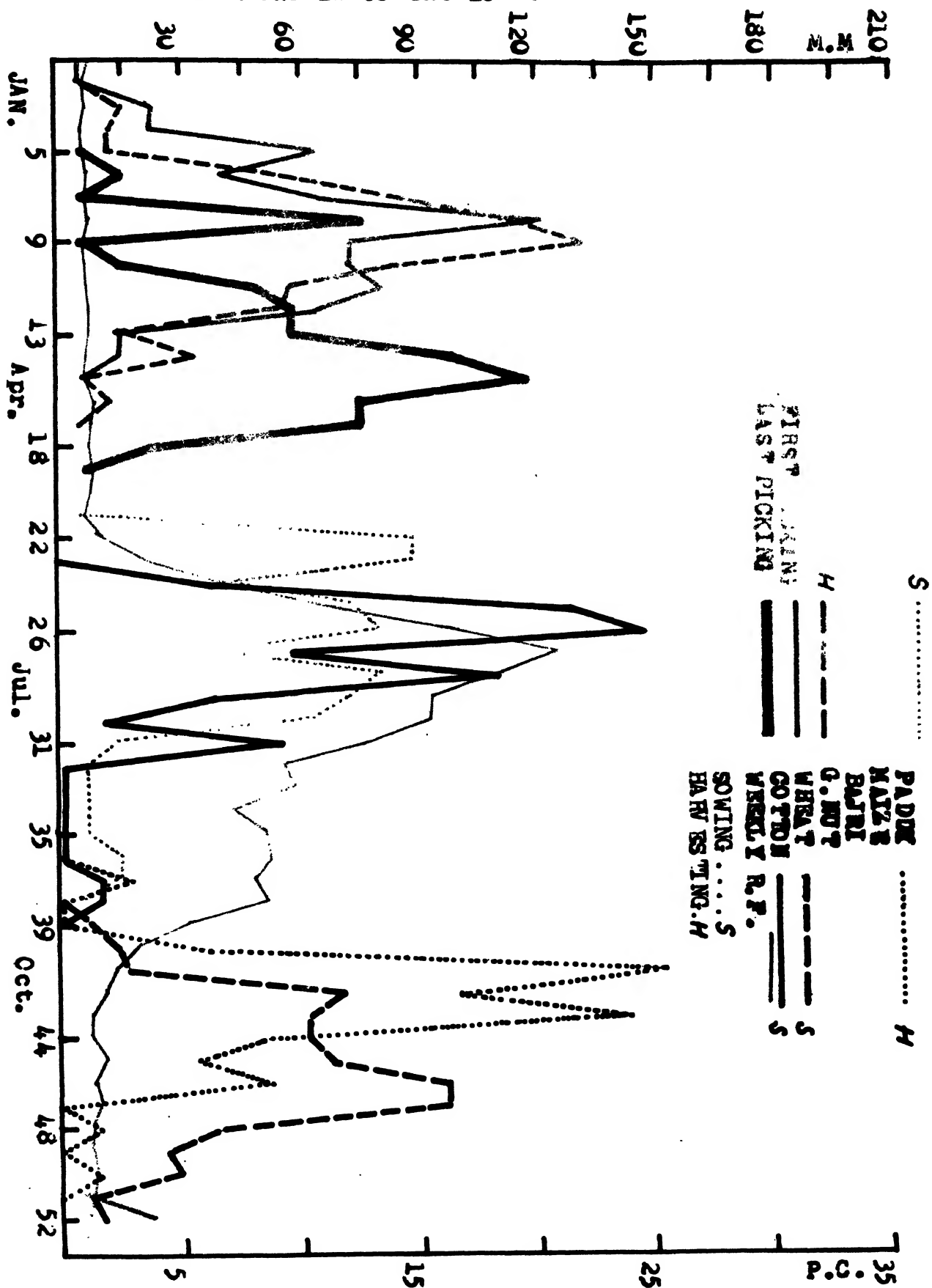


B 20 ZONE X LITTORAL SOIL-COTTON/DRY WHEAT ZONE. XIX
 GRAPH SHOWING WEEKWISE SOWING? HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.



B 11 ZONE AI LITTORAL SOIL-PADDY-WAL ZONE.
 GRAPH SHOWING WEEKLY SOWING, HARVESTING OF
 PREDOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE RAINFALL OF THE ZONE.

XX



3 12 ZONE AII LITTORAL SOIL-GROUNDNUT-BAJRI ZONE.
 GRAPH SHOWING WEEKWISE SOWING, HARVESTING OF
 PRODOMINANT CROPS OF THE ZONE, ALONG WITH
 AVERAGE OF THE ZONE. XXI

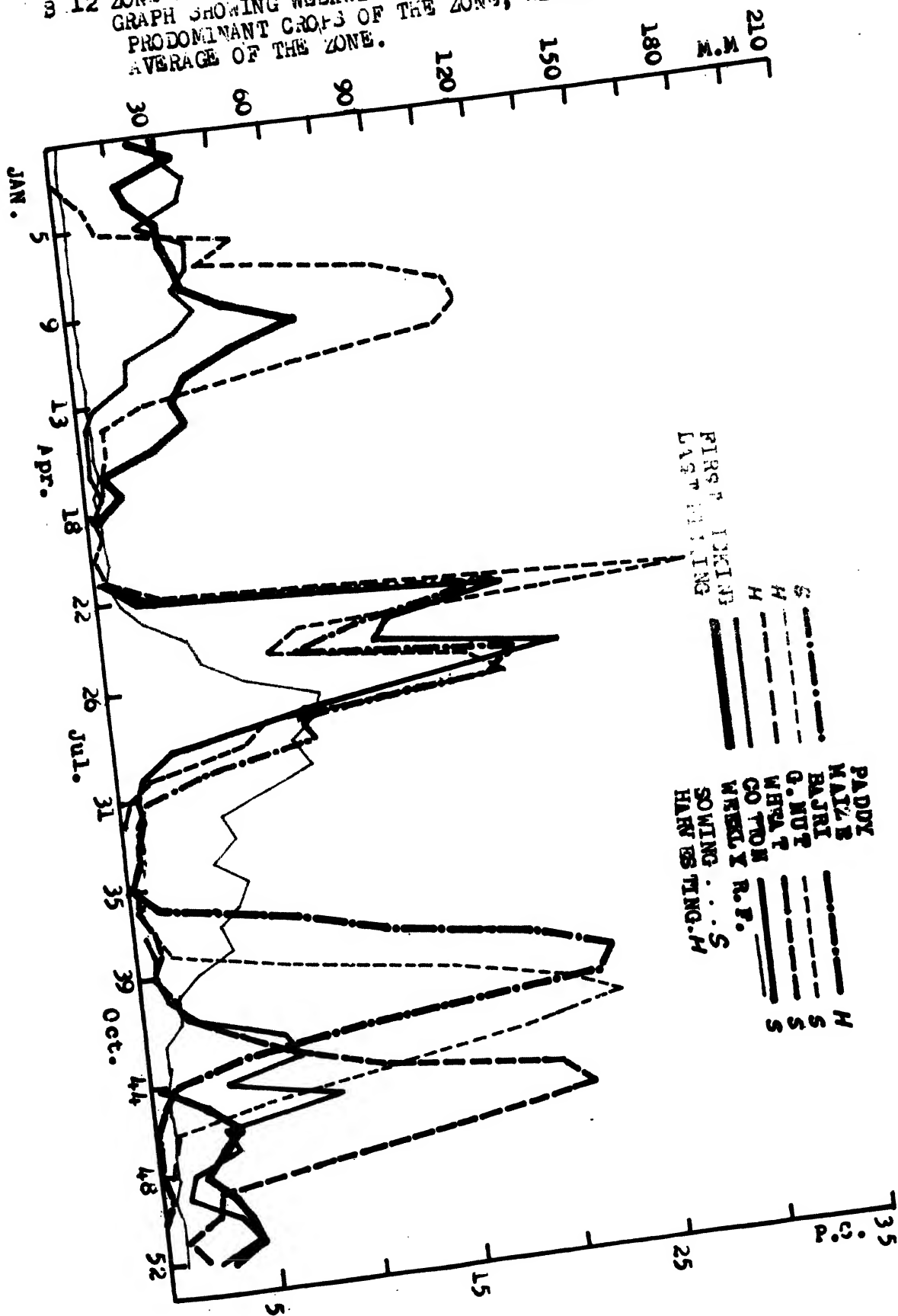


Table 1.0

Rainfall, soil type, sowing and harvesting periods and crop pattern in Gujarat State.

1. a weekly average rainfall of state.

(Rainfall in m.m.)

Name	Weeks from 30th April to 4th November.												
	18	19	20	21	22	23	24	25	26	27	28	29	30
	May						June				July		
Gujarat State.	0.7	0.6	1.7	1.0	4.9	9.8	23.0	22.5	50.1	75.0	74.7	65.2	82.7

Name	Weeks from 30th April to 4th November.													
	31	32	33	34	35	36	37	38	39	40	41	42	43	44
	August						September				October			
Gujarat State.	66.0	46.4	44.6	41.0	43.3	46.2	33.8	29.5	17.5	9.2	6.8	3.4	2.0	1.2

1. b Monthly average rainfall of state.

(Rainfall in m.m.)

Name	Jan	Feb	Mar-Apr- ch. il.	May	June	July	August	Sept- ember	Octo- ber.	Nov.- mber.	Dece- mber.	Mean Annual.	
Gujarat State.	2.1	1.5	1.8	1.8	5.9	105.3	324.9	209.5	141.8	20.8	5.4	1.3	820.8

1. c Frequency distribution of annual rainfall reliability.

No. of Rainuage stations.

C.V.	10	11.20	21.30	31.40	41.50	51.60	61.70	71.80	81.90	91.100	> 100
No. of Station	-	-	2	40	37	12	3	3	-	1	1

1.d Textural classification of soils.

(Figures in % of Soil samples).

Total Soil Samples.	Sandy Clay Loam	Sandy Loam	Loamy Clay Loam	Sandy Clay Loam	Silt	Silt Clay Loam	Sandy Clay	Silt-ty. Clay.	Silty Loam.				
State	5630	5.9%	23.6	12.4	21.8	9.7	14.8	7.4	-	0.7	1.8	0.6	1.3

1. E Percentage fields of crops sown in different weeks.

Crops	No. of weeks.															
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	April						May				June				July	
Bajri.	-	-	-	-	-	-	-	-	1.4	13.2	11.7	11.0	17.9	15.9	12.6	
Groundnut.	-	-	-	-		0.1	-	0.3	2.9	21.0	13.1	12.5	17.1	14.9	8.6	
Cotton.	-	-	-	-	-		0.1	0.3	1.8	12.2	13.1	13.8	15.5	11.8	11.0	
Maize.	0.3	-	-	-	0.3	0.1	0.1	0.1	2.8	19.1	16.4	16.3	17.0	10.8	8.8	
Wheat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

1.E (Contd.)

Crops.	No. of weeks.														
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
	July			August			September			October					
Bajri.	10.1	4.1	1.1	0.4	0.3	0.2	0.1	-	-	-	-	-	-	-	-
Groundnut.	6.1	2.6	0.3	0.2	0.2	-	-	0.1	0.1	-	-	-	-	-	-
Cotton.	6.5	4.2	2.5	1.7	1.0	1.1	0.5	0.5	0.5	0.6	0.6	0.1	0.1	0.2	-
Maize.	4.8	1.6	0.4	-	-	0.1	-	-	-	-	-	-	-	-	-
Wheat.	-	-	-	-	-	-	-	-	0.3	0.5	0.2	1.0	1.6	5.0	7.1

1.E (Contd.)

Crops	No. of week.											
	44	45	46	47	48	49	50	51	52	2	3	4
	November				December				January			
Bajri.	-	-	-	-	-	-	-	-	-	-	-	-
Groundnut	-	-	-	-	-	-	-	-	-	-	-	-
Cotton.	-	0.1	0.1	-	-	-	0.1	-	-	-	-	-
Maize.	-	-	-	-	-	-	-	-	-	-	-	-
Wheat.	8.9	16.6	19.3	17.6	1.9	4.4	4.1	2.0	1.2	0.2	-	-

XXIII (A)

-: 3 :-

1.f Percentage fields of crops harvested in different weeks.

Crops	No. of weeks.													
	33 August	34	35	36	37 September	38	39	40	41 October	42	43	44	45 November	46
Bajri.	0.1	-	0.4	1.8	7.7	15.7	19.8	10.5	17.9	9.9	4.1	0.7	0.6	0.4
Groundnut	-	-	-	-	0.3	1.1	3.7	7.7	12.5	16.2	19.6	14.1	10.2	7.2
Cotton 1st picking.	-	-	-	-	-	0.1	-	0.2	0.3	1.0	1.1	1.3	1.5	1.5
Cotton last picking.	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.5
Maize.	0.4	0.4	1.7	6.0	13.3	24.2	22.2	14.3	8.0	6.7	1.7	0.8	-	0.4
Wheat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paddy.	0.1	0.1	-	0.3	0.2	1.6	4.6	13.0	21.7	20.4	14.7	6.7	5.3	5.1

1.f (Contd.)

	No. of weeks.													
	47 Nov.	48	49	50	51	52	1	2	3	4	5	6	7	8
				December				January				February		
Bajri.	0.2	0.1	-	-	-	-	-	-	-	0.1	-	-	-	-
Groundnut	3.0	1.8	0.7	0.4	0.7	0.3	0.1	0.1	0.1	-	-	-	-	0.1
Cotton 1st Picking.	0.7	1.4	1.1	3.5	3.7	6.3	7.7	6.8	10.4	8.4	6.4	7.8	7.6	6.8
Cotton Last Picking.	0.4	0.3	0.5	0.5	0.6	0.8	1.1	1.6	2.3	3.4	3.3	5.0	6.6	9.7
Maize.	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Wheat.	-	-	-	-	-	-	-	-	0.3	0.4	1.1	4.2	5.3	10.1
Paddy.	3.8	1.5	0.3	0.2	0.3	0.1	-	-	-	-	-	-	-	-

1.f (Contd.)

	No. of weeks.													
	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		March						April				May		
Bajri.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Groundnut.	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Cotton 1st Picking.	4.6	3.9	3.4	1.6	0.7	0.4	0.2	0.3	-	0.2	-	0.1	-	-

.... 3 ...

XXIII (B)

-: 4 :-

Crops	No. of weeks.													
	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	March				April				May					
Cotton														
Last														
Picking.	9.9	10.8	12.2	9.1	6.6	5.2	3.7	2.2	2.1	0.9	0.1	0.2	0.1	-
Kaize.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
wheat.	13.8	18.5	18.3	15.4	6.9	3.7	1.5	0.4	0.1	-	-	-	-	-
Paddy.	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1.g Percentage of net sown area under groups of crops in Gujarat State.

Group	A	B	C	D	G.S.A.	Irri.
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Name

Gujarat						
State.	72.1	20.7	9.0	5.1	106.9	11.5

Table- 2.0
Weekly average rainfall of zones. (Rainfall in M.M.)

Sr. Zone No.	Name of zone.	No. of ave. cent- year. re.	Month										39 C.P.R.										0 C.W.R.										Mean annual							
			May					June					July					August					September					October												
			18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44											
1	Zone I. Residual soil - Melze.	61.2	10	1.1	1.2	1.0	6.7	10.8	23.4	29.4	47.4	71.2	86.3	68.5	102.2	83.9	67.4	53.9	62.7	65.4	57.4	43.2	37.5	18.4	8.2	6.6	1.1	2.0	1.5	53.6										
2	Zone II. Residual soil - Cotton	60.3	7	0.5	0.7	1.5	1.2	12.9	9.8	30.0	33.6	65.1	89.7	83.5	103.3	89.2	63.3	98.9	56.6	68.7	63.5	42.5	40.3	27.0	11.5	9.0	4.9	1.8	1.9	1104.9										
3	Zone III. Residual soil - Paddy.	44.4	5	0.8	0.8	2.0	2.2	7.1	14.4	46.6	70.2	109.6	163.3	151.1	189.7	146.2	111.8	89.2	101.3	64.8	63.5	43.8	34.5	15.2	12.1	2.5	3.0	1675.9												
4	Zone IV. Deep Black soil - Cotton.	53.7	11	0.8	0.5	1.1	1.0	5.3	12.0	34.3	50.1	75.5	98.6	88.3	98.8	85.5	58.8	57.6	56.9	62.8	61.5	45.1	44.3	27.7	13.7	8.8	2.2	1.9	1.7	1146.5										
5	Zone V. Sandy loam soil - Bajri-Tobacco	45.3	16	0.8	0.5	0.8	0.4	4.5	10.5	18.3	24.1	48.0	73.1	79.0	68.2	86.5	74.8	56.0	47.3	36.6	42.1	53.8	38.6	28.7	14.3	10.6	5.6	1.7	1.5	1.0	840.1									
6	Zone VI. Loamy sand soil - Bajri-Cotton	56.5	5	1.0	0.6	2.3	0.9	3.9	6.2	16.0	20.0	39.2	60.6	65.9	61.3	79.4	64.2	42.8	43.1	46.6	47.1	48.4	31.5	24.7	9.2	4.0	3.2	0.6	1.1	0.6	725.0									
7	Zone VII. Sandy Soil - Bajri-Pulses.	64.6	10	0.5	0.4	2.2	0.8	2.2	3.5	7.2	9.1	25.5	40.8	43.5	37.9	56.9	42.4	27.1	25.9	28.1	34.2	26.1	19.5	7.7	5.3	2.6	2.2	0.6	2.5	0.4	488.7									
8	Zone VIII. Clay alluvial soil - cotton/dry wheat.	64.9	12	0.8	0.7	2.1	1.4	3.9	8.8	16.9	18.6	32.1	47.7	50.6	41.1	69.9	42.8	31.7	30.0	27.0	31.9	32.3	21.9	19.1	11.4	10.1	6.1	2.3	1.6	0.6	570.4									
9	Zone IX. Residual soil - groundnut.	61.1	9	0.4	0.8	2.7	1.2	3.6	9.6	11.5	22.8	33.9	53.3	53.6	44.3	51.4	36.8	24.6	26.7	25.9	28.9	26.6	19.0	20.4	11.6	7.6	6.6	2.3	2.2	1.0	553.0									
10	Zone X. Liferal soil - cotton/dry wheat.	63.7	6	0.2	0.7	1.1	0.3	2.9	10.5	29.3	36.2	61.4	86.3	66.8	63.9	49.1	57.8	35.3	41.0	39.1	41.1	40.4	31.8	32.0	23.3	12.2	9.2	4.8	2.4	2.2	515.1									
11	Zone XI. Liferal soil - Paddy.	63.0	1	0.5	1.2	1.1	0.3	5.3	15.8	35.8	67.9	94.2	102.9	88.1	87.6	71.9	50.9	52.6	37.3	45.1	46.8	42.2	45.3	24.9	14.4	6.9	5.6	1.6	0.7	1039.1										
12	Zone XII. Liferal soil - groundnut - Bajri.	67.3	5	0.1	1.1	2.2	0.8	1.6	11.6	22.9	29.1	41.8	64.3	63.6	41.8	43.8	33.8	23.0	23.2	20.7	27.3	20.6	20.7	11.2	8.0	5.5	4.9	4.6	2.5	0.7	588.5									
States:-			59.6	57	0.7	0.6	1.7	1.0	4.9	9.8	23.0	29.5	50.1	75.0	74.7	65.2	82.7	66.0	46.4	44.6	41.0	48.3	46.2	33.8	29.6	17.5	9.2	6.8	3.4	1.8	820.8									
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Note: For weeks please see annexure - L.00 of standard weeks; * Mean annual is according to table 2.1

7 116 - 6. 42

Monthly average rainfall of zones.

MONTH

(Rainfall in M.M.)

Mean

St. Zone No.	Name of the zone	No. of avg. far. centre.	January	February	March	April	May	June	July	August	Sept.	Oct.	Novr.	Decr.	Annual	
1. Zone I.	Residual soil - Malse.	61.2	10	2.3	1.6	2.6	1.2	6.6	106.0	363.4	278.1	179.7	19.0	4.8	1.4	963.6
2. Zone II.	Residual soil - Cotton	60.3	7	2.3	1.0	1.6	1.3	6.8	133.4	422.0	296.3	202.3	28.3	7.7	1.8	1104.9
3. Zone III.	Residual soil - Paddy	44.4	5	2.6	0.9	1.9	2.6	8.8	207.8	674.9	436.4	280.9	47.0	10.0	2.4	1676.9
4. Zone IV	Deep black soil - Cotton.	63.7	11	2.6	1.3	1.4	1.7	6.1	166.7	449.2	276.5	202.9	33.7	9.0	1.4	1146.6
5. Zone V.	Sandy loam soil - Rajri - tobacco	45.3	16	1.9	1.3	1.9	1.6	4.3	91.1	334.6	226.8	156.1	16.4	4.3	0.8	840.1
6. Zone VI.	Loamy sand soil - Rajri - Cotton.	66.6	6	2.4	1.6	1.8	0.9	6.8	74.6	283.9	207.8	133.8	8.9	3.1	0.6	726.0
7. Zone VII	Sandy soil - Rajri-pulses.	64.6	10	1.9	2.7	1.8	0.8	4.6	38.9	188.4	131.6	66.9	8.2	1.8	1.4	468.7
8. Zone VIII	Clay alluvial soil - Cotton/dry wheat.	64.9	12	1.3	0.9	1.4	1.6	6.7	71.9	223.6	140.6	94.4	12.1	4.2	1.1	670.4
9. Zone IX	Residual soil - Groundnut.	60.0	8	0.9	1.3	2.1	2.7	6.7	86.1	228.9	121.7	79.6	18.1	4.8	1.2	663.0
10. Zone X	Littoral soil - cotton/dry wheat.	68.7	6	2.6	1.1	1.1	2.6	3.7	126.8	311.6	186.9	140.2	30.6	7.3	1.4	915.1
11. Zone XI	Littoral soil - Paddy	68.0	1	2.4	1.3	1.1	2.9	6.1	197.6	436.2	226.4	174.2	28.2	10.7	2.4	1029.1
12. Zone- XII	Littoral soil - Groundnut/Rajri.	66.0	6	1.6	2.0	2.1	1.9	4.9	97.1	241.3	110.3	71.6	19.7	4.6	1.4	668.6
stages		69.6	96	2.1	1.6	1.8	1.8	6.9	106.3	324.9	209.6	141.8	20.8	6.4	1.3	820.8

Frequency distribution of annual rainfall reliability.

(Figures in parenthesis indicate percentages)

Sr. Zone No.	Zone	No. of rainfalling stations.											C.V.
		< 10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	> 100	
1.	Zone I. Residual soil Madze	-	-	-	4	2	2	-	-	-	1	1	31.74
2.	Zone II. Residual soil Cotton.	-	-	-	3	1	2	-	-	-	-	-	30.28
3.	Zone III. Residual soil Paddy.	-	-	2	2	-	-	-	-	-	-	-	26.50
4.	Zone IV. Deep black soil Cotton.	-	-	-	9	2	-	-	-	-	-	-	32.59 31.25
5.	Zone V. Sandy loam soil Bajri tobacco.	-	-	-	8	7	-	-	1	-	-	-	40.88 44.29
6.	Zone VI. Loamy sand soil Bajri-Cotton	-	-	-	-	4	-	-	-	-	-	-	42.32 40.51
7.	Zone VII. Sandy soil Bajri-Pulses.	-	-	-	1	2	4	3	-	-	-	-	54.97 47.38
8.	Zone VIII. Clay alluvial soil Cotton/Dry wheat.	-	-	-	2	8	1	-	-	-	-	-	43.96 36.04
9.	Zone IX. Residual soil Groundnut.	-	-	-	5	7	2	-	1	-	-	-	41.11 34.62 40.99
10.	Zone X. Lifforal soil cotton/dry wheat	-	-	-	4	2	-	-	-	-	-	-	36.68
11.	Zone XI. Lifforal soil Paddy-Wal.	-	-	-	1	-	-	-	-	-	-	-	-
12.	Zone XII. Lifforal soil Groundnut-Bajri.	-	-	-	1	2	1	-	1	-	-	-	47.55

States:-

(2) (41) (37) (12) (3) (3) (1) (1)

A = indicates northern part of zone; B & C = indicates southern parts of the zone.

Table - 3.0

Textural classification of soil of zones (Figures in % of soil samples)													
Sr. Zone No.	Name of zone	No. of samples analysed.	Textures										
			Sandy	Clay	Loam	Sandy loam	Loamy sand	Clay loam	Sandy clay	Silt loam	Silt clay	Sandy clay	Silty loam
1. Zone I.	Residual soil - Melse.	538	6.0	4.3	14.4	39.5	15.0	8.9	11.0	-	-	1.3	0.4
2. Zone II.	Residual soil - Cotton.	288	-	42.0	5.9	12.5	5.6	11.8	12.1	-	4.9	1.4	3.5
3. Zone III.	Residual soil - Paddy.	1035	3.5	19.8	29.0	20.4	12.4	12.9	0.6	-	0.6	0.5	0.3
4. Zone IV.	Deep black soil - Cotton.	1341	5.8	28.4	11.2	13.9	9.6	28.9	1.5	-	0.1	0.4	0.1
5. Zone V.	Sandy loam soil Bajri-Bhacco	292	3.4	3.4	16.1	51.7	5.5	9.6	8.2	0.4	0.4	0.7	0.3
6. Zone VI.	Loamy sandy soil Bajri-Cotton.	283	14.8	-	3.9	61.8	13.4	1.4	4.2	-	-	0.4	-
7. Zone VII.	Sandy soil - Bajri-Pulses.	472	25.2	1.3	3.6	29.4	22.3	1.3	7.4	-	1.1	0.8	0.4
8. Zone VIII.	Clay alluvial soil Cotton/Dry wheat.	296	4.0	14.2	4.4	19.3	6.4	6.8	32.8	-	-	10.1	2.0
9. Zone IX.	Residual soil - Groundnut.	835	0.1	50.9	6.8	4.8	1.3	16.5	12.1	-	0.8	4.6	0.5
10. Zone X.	Litteral soil Cotton/Dry wheat.	22	-	72.7	4.6	-	-	-	-	-	-	-	22.7
11. Zone XI.	Litteral soil - Paddy-Wal.	23	4.3	52.3	-	4.3	-	17.4	-	4.3	4.3	-	13.1
12. Zone XII.	Litteral soil - Groundnut-Bajri	205	-	42.4	6.8	7.8	1.5	16.1	12.7	-	0.5	3.4	0.5
State:		5630	5.9	23.6	12.4	21.8	9.7	14.8	7.4	-	0.7	1.8	0.6
													1.3

Table 4.0

Percentage of fields of Bajra sown in different weeks in some zones.

Crop : Bajra. Figures in % Average Triennium ending 1971-72.

Sr. Zone No.	Name of Zone.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
No.		June					July									
																August
1. Zone V	Sandy Loam Soil Bajra-Tobacco.	3.0	15.3	19.9	14.7	22.6	6.6	9.2	5.5	1.1	1.4		0.5	0.3		
2. Zone VI	Loamy Sand Soil Bajra/Cotton.	2.4	13.9	9.2	16.0	27.4	11.7	11.5	4.8	1.8	-	0.6	-	-		
3. Zone VII	Sandy Soil Bajra Pulses.	0.4	5.3	6.8	6.6	13.6	21.6	19.8	16.6	6.4	2.0	0.5	0.4	-		
4. Zone VIII	Clay Alluvial Soil Cotton/Dry Wheat.	7.4	9.2	13.7	17.6	21.1	14.8	7.7	7.0	0.7	0.4	-	0.4			
5. Zone IX	Red dual Soil 0.1 Groundnut.	2.0	17.4	11.9	8.7	19.3	17.9	8.6	9.3	3.7	0.7	0.2	0.2	-		
6. Zone XII	Light soil Groundnut-Bajra.	0.8	16.0	12.8	9.9	9.9	15.3	15.5	13.0	4.0	2.0	-	0.2	0.2	0.4	

For identification of see annexure I 1st of standard weeks.

Table 4.0(A)
Percentage of fields of Bajra harvested in different weeks in some zones.

Crop : Bajra.

Figures in %
Average Triennium ending 1971-72.

		W E R K N O.																	
Sr. Zone No.		Name of zone.		24	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
No.				September ; October ; November ; Dec.															
1.	Zone V	Sandy Loam Soil Bajri-Tobacco.	0.6	2.8	8.6	20.7	27.0	23.0	8.0	4.6	2.3	0.6	0.6	0.0	-	-	-	-	0.3
2.	Zone VI	Loamy Sand Soil Bajri-Cotton.	-	0.8	0.8	11.6	36.0	30.0	15.4	3.0	1.6	-	-	-	-	-	-	-	-
3.	Zone VII	Sandy Soil Bajri-Pulses.	0.2	-	0.4	3.5	11.2	17.8	25.5	25.8	9.3	3.5	0.9	1.5	0.2	0.2	0.2	0.4	-
4.	Zone VIII	Clay Alluvial Soil Cotton/ Dry Wheat.	-	-	2.6	5.9	6.9	19.6	26.1	23.9	7.8	7.2	-	-	-	-	-	-	-
5.	Zone IX	Residual Soil Groundnut.	-	-	1.3	7.7	11.7	19.3	22.9	19.6	11.6	4.5	1.0	0.3	-	-	-	-	0.1
6.	Zone XII	Idtural Soil Groundnut-Bajri.	-	-	0.7	2.9	6.8	11.9	21.6	24.3	21.9	7.3	0.9	0.2	1.1	-	-	0.4	-

For identification of see annexure _____ list of standard weeks.

Table 4.1.

Percentage of fields of Groundnut sown in different weeks in some zones.

Crop: Groundnut.

Average yield in t/ha during 1971-72.

		W E E K																		
		Sowing.																		
St. No.	Zone No.	Sub-zone.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1.	Zone I	Residual Soil Maize.	1.6	19.5	18.9	20.0	21.9	8.4	5.5	3.4	0.8									
2.	Zone IX	Residual Soil Groundnut.	0.3	0.4	2.9	28.4	9.2	7.6	17.1	19.0	7.3	6.0	1.5	0.3						
3.	Zone XII	Littoral. Soil Groundnut - Bajra.	8.6	23.8	18.3	9.0	5.5	15.2	9.8	7.0	1.6	-	0.4	0.4	-	-	0.4			

Table 4.1(A)

Percentage of fields of Groundnut harvested in different weeks in some zone.

Figures in %

Crop : Groundnut.

Average Trending 1971-72.

WEEK
Harvesting.

W E E K																
Harvesting.																
Sr.	Zone No.	Sub-zone.	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1.	Zone I	Residual Soil Maize.	0.8	2.7	5.9	4.9	16.8	25.4	17.8	13.1	8.7	1.7	1.7	-	0.5	
2.	Zone IX	Residual Soil Groundnut.	0.5	1.2	6.5	14.6	19.9	22.8	18.1	10.8	4.9	0.5	0.1	0.1		
3.	Zone XII	Littoral Soil Groundnut- Bajrl.	1.6	4.3	9.8	13.4	21.2	15.0	18.9	8.7	3.9	2.4	0.8			

Table 4.3

Percentage of fields of cotton sown in different weeks
in some zones.
Crop :- Cotton.

Figures in %
Average Tendency ending 1971-72

			W E R K N O													
Sr. No.	Zone No.	Sub-zone.	20	21	22	23	24	25	26	27	28	29	30	31	32	33
			May			June			July			August.				
1.	Zone I	Residual Soil Maize.	0.6	2.6	19.7	23.2	16.2	18.0	11.9	5.2	1.4					
2.	Zone II	Residual Soil Cotton.	1.4	25.4	18.3	25.3	14.1	10.6	3.5	0.7	0.7					
3.	Zone IV	Deep black Soil Cotton.	3.1	16.0	26.2	21.5	12.6	8.1	6.0	2.2	1.1	1.3	1.1	0.6		
4.	Zone V	Sandy loam Soil Rajri-Bhaccho.	0.8	3.0	10.9	13.6	17.0	18.0	11.6	11.3	8.0	4.6	0.9			
5.	Zone VI	Loamy Sand Soil Rajri-Cotton.	1.7	0.5	1.6	9.3	8.8	7.3	14.0	9.3	13.5	18.5	11.4	2.6	0.5	0.6
6.	Zone VIII	Clay Alluvial Soil Cotton/Dry Wheat.	0.2	2.2	2.2	2.2	10.6	12.8	15.4	19.0	10.8	8.5	5.6	3.2	3.2	
7.	Zone IX	Residual Soil Groundnut.	0.2	1.7	19.2	13.8	12.8	21.6	16.3	8.3	2.5	1.0	0.6	0.8	0.8	0.2
8.	Zone X	Littoral Soil Cotton/Dry Wheat	2.2	7.8	9.8	10.0	12.3	21.3	8.9	6.6	14.5	1.1	-	-	-	
9.	Zone XI	Littoral Soil Paddy-wet.	-	-	6.2	21.5	24.6	9.3	18.5	6.2	1.5	9.2	-	-	-	
10.	Zone XII	Littoral Soil Groundnut Rajri.	3.3	18.0	10.0	4.9	4.9	3.3	19.7	10.0	-	4.9	6.6	-	-	

Table 4.2

(Cont)

Percentage of fields of Cotton sown in different figures in %
Crop : Cotton, weeks in some zones. Average Triennium ending 1971-72.

W E E K No.

Sowing.

Sr. Zone No. Sub zone. August 34 35 36 37 38 39 40 41 42 43 44 45
No. September ; October ; November.

1. Zone I	Residual Soil Maize.	-	-	0.6	0.3	0.3	-	-	-	-	-	-	-
2. Zone II	Residual Soil Cotton.	-	-	-	-	-	-	-	-	-	-	-	-
3. Zone IV	Deep black Soil Cotton.	-	-	-	-	-	0.3	-	-	-	-	-	-
4. Zone V	Sandy loam Soil Bajri-Tobacco.	0.4	-	-	-	-	-	-	-	-	-	-	-
5. Zone VI	Loamy Sand Soil Bajri-Cotton.	0.5	-	-	-	-	-	-	-	-	-	-	-
6. Zone VIII	Clay Alluvial Soil Cotton/Dry Wheat.	2.2	0.9	0.5	0.5	0.7	1.1	-	0.2	0.2	-	-	-
7. Zone IX	Residual Soil Groundnut.	0.4	0.2	-	0.4	-	-	-	-	-	-	-	-
8. Zone X	Littoral Soil Cotton/Dry Wheat.	2.2	1.1	-	-	-	2.2	-	-	-	-	-	-
9. Zone XI	Littoral Soil Paddy-Wal.	-	-	-	1.5	1.5	-	-	-	-	-	-	-
10. Zone XII	Littoral Soil Groundnut-Bajri	1.5	-	1.5	3.3	3.3	1.5	-	3.3	-	-	-	-

Table 4.2 (A)
Percentage of fields of Cotton harvested in different weeks
Crop : Cotton, in some series.
Average Triennium ending 1971-72.

W E R K N O.																																
Sr. No.		Sub zone.		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52				
Zone No.				July				August				September				Oct.				Nov.				Dec.								
1.	Zone I	Residual Soil	Malze.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	0.3	0.8	-	0.6	1.1	3.1	11.0	13.6	12.7				
2.	Zone II	Residual Soil	Cotton.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	0.7	4.5	8.4	13.6				
3.	Zone IV	Deep Black Soil	Cotton.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	3.7	0.4	9.6					
4.	Zone V	Sandy Loam Soil	Bajri-Tobacco.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	2.2	4.2	2.4	9.9					
5.	Zone VI	Loamy Sandsoil	Bajri Cotton.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1.0	-	0.5	0.6	3.1	6.1	11.7					
6.	Zone VIII	Clay Alluvial Soil	Cotton/Dry Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.4	1.6	2.7					
7.	Zone IX	Residual Soil	Groundnut.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.2	0.8	2.0	6.0	6.8	2.9	8.4	2.7	3.3	1.0	0.6	2.9	3.7	1.6
8.	Zone X	Light Soil	Cotton/Dry Wheat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	7.1	2.4	4.0	1.6	0.8	5.6	3.2		
9.	Zone XI	Light Soil	Paddy-Mel.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8			
10.	Zone XII	Light Soil	Groundnut + Bajri.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	1.5	4.3	4.3	10.2	2.9	2.9					

Table 4.2 (A) (Cont.)

Percentage of fields of Cotton harvested in different weeks in some zones.

Crop : Cotton.

W. B. K. N O.

Figures in %
Average Triennial ending 1971-72.

Sr. Zone No.	Sub-zone	January : February : March : April : May																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Zone I	Residual Soil Maize.	15.3	7.6	18.7	6.8	2.8	0.6	0.8	0.6	1.1	1.4	0.8	-	-	-	-	-	-	-
2. Zone II	Residual Soil Cotton.	17.5	20.1	16.2	5.8	3.3	1.9	1.3	0.7	-	3.3	-	0.7	0.7	-	-	-	-	-
3. Zone IV	Deep black Soil Cotton.	8.8	8.8	12.1	13.9	13.4	11.9	8.3	5.0	2.2	0.8	0.6	-	0.2	0.2	0.2	-	-	-
4. Zone V	Sandy loam Soil Bajri - Tobacco.	12.0	10.0	17.2	17.4	3.7	6.6	6.9	2.6	2.7	0.3	0.7	-	0.2	-	-	-	-	-
5. Zone VI	Loamy Sand Soil Bajri - Cotton.	6.6	7.7	11.2	5.1	8.7	8.7	14.8	5.6	2.6	5.1	0.5	-	-	-	-	-	-	0
6. Zone VIII	Clay Alluvial Soil Cotton/ Dry Wheat.	2.3	4.4	2.8	6.7	4.3	14.0	13.0	14.5	8.6	8.8	9.3	3.8	1.7	-	-	-	-	-
7. Zone IX	Residual Soil Groundnut.	4.7	5.1	6.0	5.6	3.5	5.8	5.6	4.9	5.8	4.7	2.3	2.1	0.4	-	-	-	0.2	-
8. Zone X	Lighter Soil Cotton/Dry Wheat.	5.6	10.3	12.6	8.6	15.1	6.4	-	-	-	-	-	-	-	-	-	-	-	-
9. Zone XI	Lighter Soil Paddy-Wal.	-	-	2.8	2.8	9.7	5.6	9.7	19.4	11.1	11.1	12.6	9.7	1.4	1.4	-	-	-	-
10. Zone XII	Lighter Soil Groundnut Bajri.	8.7	11.6	2.9	2.9	4.3	20.3	1.4	10.1	2.9	-	-	1.5	-	2.9	1.6	-	-	-

Percentage of fields of cotton harvested in different weeks in some zones.

Figures in %
Average Triennium ending 1971-72.

WEEK NO. 3

Sub zone.

January

● 11 ● 11 ● 12 ● 11 ● 11

34

1. Zone I	Residual Soil Malze.	1.1	3.5	5.2	7.0	6.1	9.0	12.8	9.9	12.8	10.1	6.6	5.2	4.
2. Zone II	Residual Soil Co tton.	0.7	-	4.0	8.6	5.3	11.2	2.6	9.3		18.4	1.8		
3. Zone IV	Deep black Soil Co tton.	1.1	-	0.9	3.1	2.4	3.5	6.6	14.0	11.1	1.			
4. Zone V	Sandy Loam Soil Bajri Tobacco.	-	0.5	1.2	1.7	1.0	4.6	7.7	11.5	13.2	9.6		13.1	1.1
5. Zone VI	Loamy sand Soil Bajri-Co tton.	0.6	1.1	0.6	6.3	2.9	5.7	4.6	8.0	7.4	12.0	15.0	12.5	13.1
6. Zone VIII	Clay Alluvial Soil Co tton/ Dry Wheat.	-	1.4	1.4	1.8	4.9	2.8	7.3	8.4	9.8	12.9	15.0	10.1	5.9
7. Zone IX	Residual Soil Groundnut.	3.7	5.4	2.7	3.2	4.5	4.5	5.0	5.2	7.2	10.6	7.2	5.0	4.2
8. Zone X	Littoral Soil Co tton/Dry wheat.	-	2.4	3.3	0.8	5.0	5.7	1.6	8.1	8.9	8.1	22.0	13.8	8.9
9. Zone XI	Littoral Soil Paddy/Mal.	-	-	-	-	-	1.5	-	11.6	-	1.5	7.2	8.7	8.7
10. Zone XII	Littoral Soil Groundnut- Bajri.	1.5	-	3.0	3.0	4.5	9.0	6.0	10.5	6.0	7.5	4.4	17.9	16.4

Table 4.1.3.1

Percentage of fields of cotton harvested in different weeks in some zones.

Crop : Cotton.

W E K N O.

Figures in %
Average triennium ending 1971-72.

Sr. Zone No.	Sub-zone.	41	42	43	44	45	46	47	48	49	50	51	52
1. Zone I	Residual Soil Maize.	-	-	-	-	-	-	-	-	0.6	-	-	0.3
2. Zone II	Residual Soil Cotton.	-	-	-	-	-	-	-	-	-	-	-	1.3
3. Zone IV	Deep black Soil Cotton.	-	-	-	-	-	-	-	-	-	-	-	-
4. Zone V	Sandy Loam Soil Bajri-Tobacco.	-	-	-	-	-	-	-	-	-	-	-	1.1
5. Zone VI	Loamy Sand Soil Bajri-Cotton.	-	-	-	-	-	-	-	-	-	-	-	1.1
6. Zone VIII	Clay Alluvial Soil Cotton/Dry Wheat.	-	-	-	-	-	-	-	0.3	-	-	-	0.3
7. Zone IX	Residual Soil Groundnut.	0.2	-	0.2	-	2.0	3.2	2.5	1.5	2.7	3.5	3.7	2.5
8. Zone XII	Littoral Soil Groundnut-Bajri.	-	-	-	-	-	-	-	-	-	-	-	-

Table 4.2 (B)
(cont.)

Percentage of fields of cotton harvested in different weeks in 90M . 0738.

Average Triennium ending 1971-72.

Crop : Cotton.

WEEK NO.

[illegible]

Table 4.3.

Percentage of fields of Maize sown in different weeks in some zone
Crop : Maize.

Figures in %
Average Triennial ending 1971-72.

W F 3 K N O.

Sr. No.	Zone No.	Sub-zone.	14	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1.	Zone I	Residual Soil Maize.	0.4	0.4	0.2	0.2	0.2	1.8	18.4	18.4	18.4	18.0	7.4	9.0	5.8	1.2	-	-	-	0.2

Table 4.3 (A)

Percentage of fields of Maize harvested in different weeks in some zones.

Crop : Maize.

Figures in %

Average Triennial ending.

Sr. Zone No.		Sub-zone.		35	36	37	38	39	40	41	42	43	44
No.													
L. Zone I	Residual Soil	0.4	3.8	8.8	26.1	24.6	16.7	8.3	8.5	1.7	1.1		
	Maize.												

Table 4.4 (A)

Percentage of yields of Paddy harvested in different weeks in some zones

Experiments in 5
years in the medium ending 1971-72.

Crop :- Paddy.																			
Week No. :-																			
Sr. Zone No.	Sub Zone	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
1. Zone I	Residual soil Madize	0.3	-	0.6	-	3.6	5.3	19.4	28.1	23.0	10.1	2.2	3.1	2.0	1.7	0.6	-	-	-
2. Zone II	Residual soil Cotton.	-	-	-	-	4.8	10.2	23.1	35.5	18.3	4.2	2.2	1.6	-	-	-	-	-	-
3. Zone III	Residual soil Paddy	-	-	0.5	-	0.8	1.8	9.9	21.2	15.0	20.2	8.4	4.3	5.1	0.3	0.5	0.3	0.3	0.5
4. Zone V	Sandy loam soil Bajra Tobacco.	-	-	0.6	0.2	1.7	5.9	12.3	18.7	20.3	11.5	8.5	4.5	6.8	6.4	2.0	-	-	0.6
5. Zone XI	Littoral soil Paddy - Mal	-	-	-	2.8	-	-	5.6	25.4	16.5	23.0	9.5	5.6	8.5	-	1.4	-	1.4	-

Table 4.5

Figures in %

Percentage of fields of wheat sown in different weeks in some zones.

Average triennium ending 1971-72.

Name of zone.	Zone No.	Week No																							
		35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	1	2	3	4	5	
1. Residual soil - Malze I.	Zone I.																								
2. Residual soil - Cotton. II.	Zone II.						3.6	17.9	17.8	14.3	3.5	14.3	3.6	3.6	14.3	10.7									
3. Deep black soil - Cotton IV	Zone IV								5.9	2.9	7.4	13.2	25.0	10.3	7.4	2.9	5.9	10.3	4.4	-					
4. Sandy loam soil - Bajra - Tobacco	Zone V						.3	.6	1.9	3.2	6.9	10.4	18.9	23.7	10.7	10.4	7.9	2.5	1.3	1.3					
5. Loamy sandy soil - Bajra - Cotton	Zone VI							1.1	.5	1.6	3.7	15.0	24.9	28.0	9.0	5.8	4.8	2.1	.5						
6. Sandy soil - Bajra - Pulses. VII.	Zone VII.						.3	-	1.5	3.0	11.1	21.7	21.7	19.0	14.2	4.5	0.9	2.1							
7. Clay alluvial soil - Cotton/dry wheat	Zone VIII			.7	1.5	.2	1.9	2.7	10.9	16.3	8.5	10.7	14.6	13.3	9.7	3.2	3.6	1.5	0.7						
8. Residual soil - Groundnut.	Zone IX.	.1	.1	.6	.9	.4	1.1	1.8	4.0	6.6	10.9	19.9	21.3	15.5	8.9	2.7	2.5	.9	1.7						1
9. Lifforal soil - Cotton/ Dry wheat.	Zone X						8.9	5.1	2.5	22.9	13.9	13.9	10.1	10.1	6.3	5.1	3.8	3.8							
10. Lifforal soil - Groundnut - Bajra.	Zone XI.						2.9	3.9	7.8	5.8	11.7	20.4	24.3	7.8	4.9	5.8	1.8	2.9							

Table: 4.5(A)

Figures in %
Average triennial ending 1971-72.

Percentage of fields of wheat harvested in different weeks in some zones.

St. Zone No.	St. Zone No.	Zone	Week No.																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Zone I.	Restful soil Malze.	—	—	—	—	.4	1.5	.8	3.4	9.1	26.2	27.0	14.8	9.9	4.2	2.3	0.4	—
2.	Zone II	Restful soil Cotton.	—	—	—	—	—	6.7	23.4	33.3	13.3	10.0	6.7	—	3.3	3.3	—	—	—
3.	Zone III.	Deep black soil Cotton	—	—	—	—	—	—	—	5.2	7.8	11.7	36.3	23.4	7.8	7.8	—	—	—
4.	Zone V..	Sandy loam soil Bajri-Tobacco	—	—	—	—	.6	.6	1.6	2.8	5.9	11.6	20.6	28.1	18.2	6.6	3.4	—	—
5.	Zone VI.	Loamy sand soil Bajri-Cotton.	—	—	1.0	—	—	—	—	—	.5	13.2	17.8	40.3	15.2	8.4	2.6	.5	.5
6.	Zone VII.	Sandy soil Bajri-Pulses.	—	—	.3	.3	1.4	2.0	5.1	7.6	14.1	23.9	18.3	14.9	4.5	5.9	1.4	0.4	0.3
7.	Zone VIII.	Clay Alluvial soil. Cotton/Dry wheat.	.4	—	—	—	1.6	5.1	8.3	14.1	18.4	21.3	15.4	8.3	4.5	1.3	1.3	—	—
8.	Zone IX.	Restful soil Groundnut.	—	—	0.1	1.0	1.5	7.9	6.1	14.6	18.3	17.3	9.9	2.9	.7	.8	.5	.3	—
9.	Zone X.	Restful soil Cotton/Dry Wheat	—	—	2.2	—	—	9.8	19.6	27.2	14.0	13.0	6.5	2.2	2.2	3.3	—	—	—
10.	Zone XI.	Light soil Groundnut-Bajri.	—	—	1.0	2.0	2.0	5.9	6.9	—	28.7	10.9	13.9	1.0	5.9	—	2.0	—	—

Table No. 5.00

Percentage of net sown area under groups of crops in the crop zone of Gujarat State.

Based on average 1968-69 - 69-70

'A' short duration Kharif crops; 'B' Long duration Kharif crops; 'C' Rabi crops; 'D' Others crops.

Sr. No.	Subzones names	A	B	C	D	G.S.A.	Irrig.
1.	Residual Soil Maize Zone	32.0	16.9	10.7	1.8	111.4	3.9
2.	Residual Soil Cotton-Zone	64.9	31.1	2.5	3.9	102.4	5.7
3.	Residual Soil, Paddy Zone	61.4	9.1	8.3	27.0	105.8	4.4
4.	Deep Black Soil, Cotton Zone.	35.4	49.5	5.4	13.4	103.7	15.8
5.	Sandy Loam Soil, Bajri-Tobacco Zone	64.9	33.5	7.9	2.9	109.2	24.9
6.	Loamy Sandy Soil, Bajri-Cotton Zone	74.6	20.4	18.5	2.5	116.0	28.5
7.	Sandy Soil Bajri-Pulses Zone.	39.0	7.1	11.8	1.3	109.7	14.8
8.	Clay Alluvial Soil Cotton-Dry wheat Zone	44.0	45.3	12.2	0.3	101.8	7.3
9.	Residual Soil Groundnut Zone	35.8	9.5	5.6	4.2	105.1	10.6
10.	Litoral Soil Cotton-Dry wheat Zone	28.3	57.2	10.0	5.5	101.5	7.2
11.	Litoral Soil Paddy-wal Zone	39.6	14.2	11.3	45.6	120.8	16.0
12.	Litoral Soil Groundnut-Bajri Zone	38.9	5.6	6.5	5.8	106.8	12.8
Gujarat State		72.1	20.7	9.0	5.1	106.9	11.5

Table 5.01.

Residual Soil-Maize Zone,

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. Taluka No.	A	B	C	D	G.S.A.	Irrigated
1. Danta	86.2	14.7	19.5	1.6	122.0	26.9
2. Khedbrahwa	65.8	31.9	8.7	1.7	108.1	14.2
3. Idar	63.0	34.6	10.0	3.5	111.1	23.2
4. Vijaynagar	91.3	5.9	28.9	3.7	129.8	18.8
5. Bhiloda	77.8	19.6	12.9	2.6	112.9	19.0
6. Modasa	74.8	25.3	5.4	2.2	107.7	10.1
7. Meghraj	83.4	16.3	5.0	0.2	104.9	5.4
8. Malpur	87.9	12.0	4.5	0.3	104.7	5.0
9. Bayad	68.8	30.7	3.0	1.5	104.0	7.6
10. Balasinor	67.7	31.9	2.2	0.6	102.4	3.1
11. Lunavada	88.3	10.6	6.5	0.3	105.7	4.6
12. Santrampur	95.4	4.2	17.7	0.5	117.8	2.8
13. Sonehra	89.3	11.0	3.8	0.2	104.3	2.4
14. Jhalod	91.1	3.1	25.9	4.0	124.1	5.9
15. Gochhra	85.2	16.1	6.3	0.3	107.9	5.0
16. Deogadhbaria	90.2	11.2	4.8	2.4	108.6	2.0
17. Limkheda	97.1	3.1	13.5	0.7	114.4	2.7
18. Dohad	92.2	2.7	28.7	4.2	127.8	6.4
Zone	82.0	16.9	10.7	1.8	111.4	8.7

Table No. 5.02

Residual Soil-Cotton Zone

Percentage of NSA under groups of crop; in talukas.

Group A short duration Kharif crop; Group B long duration Kharif
Crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Halol	71.8	32.1	1.9	0.2	106.0	1.9
2.	Jambughoda	87.8	24.8	0.9	1.4	114.9	9.1
3.	Jabugam	62.4	34.0	1.2	5.2	102.8	7.3
4.	Chhotaudipur	73.1	23.2	1.2	4.3	101.8	0.9
5.	Naswadi	45.2	47.3	1.2	7.3	101.0	2.3
6.	Nandod	46.3	46.9	1.0	6.4	100.6	13.5
7.	Dediapada	67.1	28.2	1.1	3.9	100.3	2.4
8.	Sagbara	73.3	25.0	2.1	0.3	100.7	4.8
9.	Nizar	82.4	8.3	12.8	0.8	104.3	9.4
Zone		64.9	31.1	2.5	3.9	102.4	5.7

XXXXII

Table No. 5.03

Residual Soil-Paddy zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Songadh	74.7	15.4	4.7	10.5	105.3	2.6
2.	Uchhal	77.6	19.7	1.5	1.7	100.5	0.9
3.	Vyara	66.7	19.9	8.9	11.8	107.3	5.2
4.	Ahwa	73.8	5.2	11.4	9.9	100.3	0.3
5.	Chikhali	44.1	7.6	12.7	46.9	111.3	8.5
6.	Vansda	65.7	8.4	5.5	25.6	105.2	2.3
7.	Dharampur	66.2	6.0	5.9	23.7	101.8	0.7
8.	Pardi	43.9	1.7	12.9	54.9	113.4	15.2
9.	Umbargam	41.9	1.1	3.5	56.9	103.4	2.8
Total		61.4	9.1	8.3	27.0	105.8	4.4

XXXXIII

Table No. 5.04 Deep black Soil-Cotton zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Amod	17.7	71.7	8.4	3.1	100.9	39.4
2.	Karjan	17.2	75.4	3.8	5.5	102.4	35.6
3.	Bharuch	15.5	69.3	9.8	5.8	100.4	24.6
4.	Dabhoi	24.9	68.0	3.8	7.1	103.8	13.4
5.	Bankheda	32.1	57.2	1.8	11.4	102.5	8.3
6.	Shiror	21.7	71.0	3.0	6.9	102.6	41.9
7.	Waghodia	35.8	63.9	2.9	3.4	106.0	8.0
8.	Tilakwade	36.2	55.2	0.4	8.8	100.6	0.9
9.	Ankleshwar	34.3	50.5	4.2	11.6	100.6	6.5
10.	Jhagadia	37.5	51.8	1.6	9.0	100.9	8.8
11.	Valia	40.1	46.7	1.8	12.6	101.2	10.8
12.	Mangrol	52.2	33.4	1.5	13.9	101.0	3.1
13.	Mandvi	59.9	33.4	8.1	27.9	106.2	29.6
14.	Kamrej	36.8	33.4	8.1	27.9	106.2	29.6
15.	Bardoli	37.8	22.0	17.0	40.3	117.1	32.4
16.	Palsana	34.5	20.3	10.2	44.5	109.5	43.6
17.	Mahuwa (SR)	64.0	17.7	10.7	18.3	110.7	17.4
18.	Valod	57.2	23.6	10.1	19.7	110.6	5.6
Zone		35.4	50.4	5.2	12.8	103.8	15.3

XXXXIV

Table No. 5.05 Sandy Loam Soil-Jajri-Tobacco zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A	Irrigated
1.	Anand.	58.2	43.9	8.8	3.1	114.0	50.9
2.	Borsad	71.5	26.2	4.7	2.9	105.3	24.7
3.	Petlad	87.2	19.8	8.4	3.3	118.7	35.8
4.	Nadiad	83.3	20.1	15.0	2.9	121.3	40.5
5.	Thasra	56.1	43.4	4.7	1.3	105.5	10.5
6.	Savli	38.4	59.4	2.1	2.0	101.9	10.3
7.	Padra	41.3	53.0	6.8	5.0	106.1	14.1
8.	Vadodara	37.1	54.1	5.1	7.3	103.6	33.5
9.	Kaiol(Pmls)	89.0	16.3	4.6	0.3	110.2	11.3
10.	Ahmedabadcity	68.0	6.1	12.8	19.1	106.0	24.4
11.	Daskroi	30.3	15.7	14.7	1.3	112.0	32.6
12.	Mahemdabad	91.7	9.4	10.8	1.0	112.9	27.1
13.	Matar	73.6	15.0	18.4	2.2	109.2	42.2
14.	Kapadvanj	76.0	24.8	4.6	1.0	106.4	9.6
zone		66.8	31.6	8.2	2.8	109.4	26.0

Table No. 5.06 Loamy Sand Soil - Bajri-Cotton Zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Mehsana	77.0	16.4	25.4	2.1	120.9	26.8
2.	Visnagar	81.3	9.3	37.2	2.3	130.1	42.3
3.	Vijapur	76.0	18.2	32.6	5.0	131.8	47.4
4.	Kadi	52.9	34.3	11.7	1.7	110.6	23.7
5.	Kalol (Meh.)	60.2	27.2	20.3	3.3	117.0	38.9
6.	Prantij	85.1	13.1	7.7	2.5	108.4	12.2
7.	Dehgam	87.0	14.9	8.5	1.6	112.6	27.5
8.	Limatnagar	67.7	31.9	7.0	1.8	108.4	17.6
9.	Chanoma	69.7	18.1	15.6	2.3	105.7	17.0
Zone		74.6	20.4	18.5	2.5	116.0	28.4

Table No. 5.07

Sandy Soil-Sajri-Pulses Zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Lakhpat	99.1	0.5	1.2	0.1	100.9	5.6
2.	Nakntrana	98.3	1.8	11.3	0.1	111.5	25.1
3.	Abdasa	97.1	2.1	2.4	0.1	101.7	3.9
4.	Bhuj	94.1	5.0	6.2	0.3	105.6	16.8
5.	Wao	97.4	0.8	0.7	1.6	100.5	0.5
6.	Tharad	99.3	1.8	7.4	4.0	112.5	7.9
7.	Deodar	95.3	3.2	11.7	1.1	111.3	11.8
8.	Dhamera	96.0	0.4	13.1	5.5	115.0	13.1
9.	Jeesa	95.9	1.0	19.0	2.0	117.9	18.5
10.	Kankrej	74.4	5.7	24.9	1.7	106.7	28.2
11.	Palanpur	94.2	2.4	24.2	3.6	124.4	27.4
12.	Wadgam	89.9	1.3	29.5	8.6	129.3	33.6
13.	Patan (meh.)	78.2	8.4	28.4	0.1	115.1	32.6
14.	Siddhpur	86.1	6.1	27.8	0.7	120.7	30.1
15.	Kheralu	79.7	9.6	20.7	3.6	113.6	23.9
16.	Mandvi.	88.8	11.3	2.0	0.6	102.7	18.9
17.	Mundra	82.9	13.7	1.8	0.5	103.9	11.3
18.	Anjar	81.3	13.8	2.4	0.2	102.7	5.6
19.	Bhachau	86.3	13.9	1.6	-	101.8	3.4
20.	Rapar	86.9	12.9	2.9	-	102.7	4.1
21.	Santhalpur	81.2	14.9	3.5	0.6	100.2	1.6
22.	Radhanpur	75.5	15.5	10.4	2.4	104.2	8.5
23.	Harij	68.6	18.2	16.4	4.0	107.2	16.8
Zone		89.0	7.1	11.8	1.8	109.7	14.8

XXXXVII

Table No. 5.08

Clay Alluvial Soil-Cotton/Dry Wheat Zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Jami	45.7	39.3	15.7	0.5	101.2	2.1
2.	Dasada	34.8	64.9	2.1	-	101.8	0.5
3.	Viramgam.	42.3	54.0	4.6	10.3	101.2	4.2
4.	Malia (M)	54.5	45.3	1.2	0.1	101.1	2.2
5.	Halwad	52.1	47.8	2.3	Nil	102.2	12.9
6.	Dhangadhra	51.3	49.0	1.2	-	101.5	5.8
7.	Lakhtar	40.1	58.3	1.6	0.1	100.1	1.0
8.	Sanand	48.0	41.0	10.5	1.6	101.1	20.7
9.	Limbadi	44.4	46.4	10.5	Nil	101.3	3.9
10.	Dholka	32.1	40.5	31.3	0.8	104.7	17.0
11.	Dhandhuka	44.2	35.6	20.9	Nil	100.7	4.1
12.	Khambhat	53.8	20.1	29.1	1.3	104.3	19.1
13.							
	Zone	44.0	45.3	12.2	0.3	101.8	7.3

Table No.5,09

Residual Soil-Groundnut Zone.

Percentage of N3A under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigate
1.	Muli	63.6	35.2	2.9	2.4	104.1	11.0
2.	Nadhwani	49.8	51.1	1.7	-	102.6	8.0
3.	Jayla	74.2	22.2	1.8	3.9	102.1	4.5
4.	Jodia	76.0	13.4	13.5	0.8	103.8	4.7
5.	Morvi	70.7	28.7	2.7	0.3	102.4	6.7
6.	Nankaner	86.1	10.9	6.4	0.4	103.8	16.6
7.	Jasdan	82.9	9.5	6.6	5.8	104.8	11.5
8.	Gadhda	78.2	16.5	3.5	3.4	101.6	11.7
9.	Lathi	88.7	9.4	3.7	1.2	103.0	7.0
10.	Umaraja	79.5	13.1	9.5	1.7	108.8	24.9
11.	Botad.	31.0	14.7	4.6	2.0	102.3	13.8
12.	Lilia	81.3	14.6	2.3	3.5	101.7	3.6
13.	Carladhar	91.8	7.3	0.8	2.0	101.9	2.3
14.	Shikar	75.4	9.8	4.6	12.1	101.9	6.7
15.	Palitana	80.4	7.3	2.7	11.8	102.2	6.9
16.	Chogho	87.8	0.9	6.7	11.6	107.0	7.1
17.	Bhavnagar	81.1	4.0	6.8	11.4	103.3	7.8
18.	Vallabhipur	70.9	12.8	17.6	0.5	101.8	12.7
19.	Upleta	79.2	17.1	6.4	3.1	105.8	30.4
20.	Dhoraji	87.7	10.3	10.5	2.2	110.7	27.8
21.	Kukiyana	78.9	15.7	3.1	4.8	102.5	8.6
22.	Manavadar	84.1	10.9	3.5	5.2	103.7	10.7
23.	Vanthali	77.2	10.4	8.3	12.2	108.1	16.4
24.	Junagadh	83.5	12.3	9.9	4.5	110.2	22.9
25.	Keshod	96.8	3.7	9.9	6.6	117.0	13.6
26.	Mandarda	85.2	3.9	13.3	12.0	114.4	16.7
27.	Visavadar	89.3	4.5	6.9	8.0	108.7	13.6
28.	Khambhalia	98.6	1.7	6.2	0.4	106.9	8.0
29.	Laipur	98.1	0.8	7.7	0.7	107.3	8.3
30.	Jamnagar	97.4	0.5	10.3	0.5	108.7	13.7
31.	Dhrol	95.6	2.7	4.3	1.1	103.7	7.0
32.	Bhanwad	97.8	2.0	8.0	1.0	108.8	11.3
33.	Jam Jodhpur	92.0	4.4	5.2	4.0	105.6	11.2
34.	Kalawad	97.0	1.5	9.3	1.0	108.8	13.8
35.	Paddhari	95.7	3.7	4.8	0.5	104.7	7.4
36.	Levadia	95.0	2.3	2.0	2.4	105.8	30.4
37.	Rajkot	91.7	5.8	4.3	2.8	103.8	11.0
38.	Chotila	81.0	6.6	4.2	11.8	103.6	6.1
39.	Korda-Sangani	87.0	7.2	0.8	5.7	100.7	9.9
40.	Babra	87.3	7.1	1.6	4.9	100.9	4.8
41.	Amali	93.5	3.5	10.0	2.0	109.0	13.5

II

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
42.	Dhari	84.4	2.0	4.7	12.5	103.6	7.5
43.	Kundla	85.3	6.3	1.2	8.4	101.2	3.7
44.	Khambha	77.9	2.9	1.5	19.2	101.5	3.4
45.	Kandorna	93.3	5.0	2.9	1.8	103.0	9.8
46.	Gondal	89.4	7.5	5.1	3.1	105.1	14.6
47.	Jetpur.	93.2	5.5	10.9	2.4	112.0	21.6
48.	Kankavav	95.6	3.4	3.1	1.4	103.5	8.4
49.	Bhesan	94.9	2.3	7.0	3.3	107.3	9.5
50.	Talala	103.8	3.0	12.4	4.2	123.4	22.8
Zone		85.3	10.0	5.7	4.1	105.1	10.9

L

Table No.5.10

Liftoral Soil-Cotton/Dry wheat Zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

No.	Taluka	A	B	C	D	G.S.I. irrigated	
1.	Jambusar	31.1	64.9	5.9	0.8	102.7	2.2
2.	Vagra	20.91	58.2	19.6	1.5	100.2	2.8
3.	Hansot	26.0	59.0	5.3	9.8	100.1	3.2
4.	Olpad	36.3	43.8	7.4	14.7	102.2	22.1
Zone		28.3	57.2	10.0	5.5	101.5	7.2

[illegible]

Table No.5.11

Littoral Soil-Paddy-Wal Zone.

Percentage of N3A under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Choryasi	44.7	19.5	7.3	31.4	103.4	26.7
2.	Nasvadi	43.6	23.1	12.9	34.0	113.6	21.8
4.	Valsad.	30.2	1.3	12.1	69.1	112.7	5.7
3.	Gandevi.	39.1	8.2	12.6	54.7	114.6	2.2
	Zone	39.6	14.2	11.3	45.6	110.8	16.0

Table No.5.12 Littoral Soil-Groundnut- Bajri Zone.

Percentage of NSA under groups of crop in talukas.

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C rabi crop; Group D other crops.

Sr. No.	Taluka	A	B	C	D	G.S.A.	Irrigated
1.	Okha Mandal	97.0	2.2	1.4	0.1	100.7	2.3
2.	Kalyanpur	86.6	14.1	2.8	0.4	104.1	6.9
3.	Porbandar	72.5	11.8	12.5	2.5	106.3	17.8
4.	Ranavav	85.2	11.5	4.6	4.0	105.3	12.2
5.	Mangrol(JND)	81.7	6.7	8.3	10.0	107.2	25.0
6.	Malia (JND)	94.5	0.6	8.3	9.7	113.1	17.9
7.	Patan(Veraval)	97.4	0.4	6.9	3.5	113.2	18.0
8.	Kodinar	79.5	2.5	6.5	14.5	107.0	23.2
9.	Una	87.5	4.6	6.5	3.7	107.3	16.2
10.	Talaja	95.4	0.6	14.5	3.6	114.1	18.2
11.	Jafrabad	95.0	1.2	2.2	3.8	102.2	3.0
12.	Rajula	95.0	1.0	2.6	4.4	103.1	3.6
13.	Mahuwa	92.2	1.2	5.1	6.4	104.9	6.7
Zone		88.9	5.6	6.5	5.8	106.8	12.8

Table - 6.0

Weekly average maximum and minimum temperatures and relative humidity
in some zones.

(Temperature in Centigrade)
Relative humidity in %)

Zone	Name of zone.	Item.	Week No.							
			1	2	3	4	5	6	7	8
			January					February		
Zone I	Residual Soil Maize.	Maxi.	26.57	27.16	25.97	26.79	27.31	28.56	28.71	28.75
		Mini.	17.95	18.62	16.41	16.68	15.85	16.23	17.04	17.44
		R.H.	71.6	70.4	79.5	66.5	66.4	57.3	65.06	57.4
Zone IV	Deep black Soil-Cotton.	Maxi.	29.10	29.56	19.2	19.57	30.06	31.33	31.97	32.69
		Mini.	14.49	14.03	13.61	13.40	14.06	14.69	15.36	17.05
		R.H.	72.5	74.5	68.8	66.1	65.4	65.3	69.1	69.3
Zone V	Sandy Loam Soil Bajri- & Tobacco.	Maxi.	31.44	33.25	33.17	33.58	33.51	36.2	36.11	34.97
		Mini.	10.53	12.95	12.74	12.54	13.01	15.75	17.52	19.70
		R.H.	67.7	68.0	69.4	66.9	66.7	64.6	71.3	68.9
Zone VI	Loamy sand Soil Bajri- Cotton.	Maxi.	27.86	27.48	26.87	26.73		27.13	29.39	30.39
		Mini.	10.57	92.9	11.07	9.03	29.00 11.38	12.78	12.07	15.00
		R.H.	74.2	77.8	75.7	70.6	75.1	63.5	65.1	71.9
Zone VIII	Clay Alluvial Soil-Cotton/ Dry Wheat.	Maxi.	28.98	28.81	28.52	28.60	29.23	30.11	31.53	32.52
		Mini.	12.53	11.81	12.07	11.70	12.70	13.30	14.41	16.05
		R.H.	59.1	57.8	58.3	56.7	53.5	55.3	57.8	62.0
Zone IX	Residual Soil Groundnut.	Maxi.	25.64	25.78	26.09	26.33	26.05	26.44	28.22	29.04
		Mini.	10.42	9.68	9.05	9.47	9.45	11.13	11.17	12.58
		R.H.	72.2	74.1	75.5	74.9	73.9	72.2	75.5	77.6
Zone XI	Littoral Soil Paddy-Wal.	Maxi.	29.19	30.19	30.25	29.81	32.89	32.02	32.06	32.50
		Mini.	13.17	12.87	11.89	12.01	12.86	12.61	13.78	15.76
		R.H.	67.8	73.7	68.8	72.2	64.2	63.9	74.3	73.0
Zone XII	Littoral Soil Groundnut- Bajri.	Maxi.	28.46	27.57	27.14	25.68	25.96	25.93	28.29	27.75
		Mini.	18.39	16.71	17.89	15.96	15.82	16.43	19.44	18.61
		R.H.	-	-	-	-	-	-	-	-
State		Maxi.	28.34	28.70	25.49	27.05	27.80	29.79	30.88	31.28
		Mini.	13.18	13.02	12.83	12.54	12.97	14.05	14.88	16.43
		R.H.	73.4	70.9	69.4	67.7	66.1	62.6	68.6	68.6

Note :- (1) For Standard weeks refer Annexure I.

(2) Above table indicates humidity and temperature data of
available stations in Gujarat State.

Table 6.0 (Contd.)

Zone.	Item.	Week No.									
		9	10	11	12	13	14	15	16	17	18
		March						April			May
Zone I	Maxi.	30.25	31.18	33.42	32.49	33.73	36.15	38.56	38.31	38.97	39.99
	Mini.	18.07	18.88	21.12	20.24	22.43	27.09	24.77	24.87	25.65	26.47
	R.H.	52.6	53.2	66.4	68.6	72.5	60.0	61.7	64.5	73.5	73.2
Zone IV	Maxi.	33.17	34.92	25.84	35.48	35.81	37.62	38.82	39.14	39.39	39.18
	Mini.	18.13	19.51	20.31	21.30	20.05	20.82	23.29	24.07	24.93	26.35
	R.H.	65.4	66.7	69.0	72.3	67.4	70.2	67.7	71.3	72.6	75.1
Zone V	Maxi.	35.96	38.46	38.89	37.90	38.52	40.83	41.70	42.28	41.57	43.00
	Mini.	20.27	20.67	21.32	22.48	24.46	25.96	27.57	28.63	28.29	28.13
	R.H.	70.4	63.4	68.1	67.0	67.4	73.0	76.0	71.5	73.4	71.2
Zone VI	Maxi.	31.84	33.48	35.38	37.07	37.29	38.39	37.32	38.46	39.90	39.98
	Mini.	16.16	-	-	-	-	-	-	21.42	24.00	26.79
	R.H.	62.6	52.8	61.4	67.7	65.4	64.6	69.2	65.8	63.6	70.1
Zone VIII	Maxi.	33.29	35.25	36.77	36.43	37.64	38.67	40.17	40.53	40.20	41.07
	Mini.	16.85	17.53	19.90	19.96	20.87	22.44	24.12	24.20	27.36	25.90
	R.H.	61.1	52.6	58.6	64.8	63.8	60.9	58.5	55.9	58.7	62.7
Zone IX	Maxi.	30.22	32.85	33.17	32.98	33.29	34.26	35.96	36.49	36.34	36.42
	Mini.	18.75	14.99	16.51	17.15	17.51	17.67	19.75	20.90	21.41	22.18
	R.H.	75.0	72.5	77.8	79.8	78.3	81.8	81.2	80.2	78.0	83.1
Zone XI	Maxi.	33.54	34.93	36.04	34.54	36.55	36.69	38.00	36.70	37.38	37.01
	Mini.	16.05	16.45	18.62	18.93	19.65	20.02	22.17	22.69	23.73	24.60
	R.H.	72.8	68.6	73.4	76.9	73.9	72.9	73.4	74.1	78.1	79.5
Zone XII	Maxi.	28.57	29.43	31.36	30.22	31.46	29.78	31.04	31.96	32.85	31.53
	Mini.	17.89	20.03	21.50	21.32	22.43	19.71	20.71	24.45	26.36	26.61
	R.H.	-	-	-	-	-	-	-	-	-	-
State	Maxi.	32.27	34.04	35.31	25.82	35.75	34.39	38.58	38.53	38.78	39.13
	Mini.	17.88	18.30	19.87	20.20	21.06	21.64	23.49	23.96	25.24	25.92
	R.H.	65.7	61.4	67.8	71.6	69.9	69.6	69.7	68.8	70.5	72.8

Table 6.0 (Contd)

Zone	Item	Week No.									
		19	20	21	22	23	24	25	26	27	28
		May					June			July	
Zone I.	Maxi.	39.91	39.79	39.29	38.57	37.15	35.82	34.80	33.73	31.95	32.00
	Mini.	26.56	26.94	28.41	27.30	27.00	27.42	27.57	27.11	26.59	26.85
	R.H.	78.6	75.7	79.7	76.4	73.4	78.4	81.9	85.5	85.9	83.8
Zone IV	Maxi.	39.54	35.64	38.77	37.16	35.81	35.30	34.93	35.02	32.56	32.38
	Mini.	26.47	26.94	26.93	27.75	26.64	27.16	26.64	26.19	26.82	26.05
	R.H.	70.5	71.5	76.8	75.4	80.3	79.8	83.8	83.9	86.9	86.2
Zone V	Maxi.	42.87	43.90	42.83	42.91	41.61	40.06	38.51	38.53	37.23	35.93
	Mini.	27.67	28.37	27.80	27.25	26.91	27.39	27.53	27.11	26.41	26.37
	R.H.	77.0	71.9	72.3	71.4	75.1	73.9	73.8	76.1	79.6	78.7
Zone VI	Maxi.	40.58	41.10	40.74	40.54	38.88	37.95	38.31	33.55	33.77	33.80
	Mini.	27.07	27.15	25.83	25.20	24.46	27.92	27.42	26.42	26.64	26.68
	R.H.	70.8	76.6	78.6	81.7	81.9	92.9	85.9	78.7	91.0	93.6
Zone VIII	Maxi.	41.90	42.04	41.82	41.14	39.50	39.36	37.52	36.07	35.27	35.28
	Mini.	25.81	26.60	26.75	27.28	27.32	27.07	27.14	26.64	26.19	26.13
	R.H.	62.8	62.3	70.3	71.3	75.4	75.5	78.5	79.2	83.4	63.1
Zone IX	Maxi.	39.20	37.45	36.40	36.55	36.18	36.67	35.69	34.45	33.52	34.06
	Mini.	23.00	24.51	24.68	25.30	24.92	26.26	26.12	25.58	25.25	25.34
	R.H.	83.4	82.5	84.4	83.9	84.9	85.1	86.5	86.8	89.5	88.3
Zone XI	Maxi.	36.51	36.76	35.38	35.41	34.58	34.39	33.38	32.46	31.64	31.58
	Mini.	29.9	25.83	26.94	26.85	27.03	26.67	26.45	25.83	25.17	25.56
	R.H.	78.1	79.5	82.1	81.6	84.1	86.7	87.7	88.8	89.6	87.0
Zone XII	Maxi.	32.82	32.73	32.78	32.08	32.48	31.43	31.62	30.81	29.29	29.67
	Mini.	27.14	27.61	27.93	27.57	27.43	29.14	28.67	27.00	26.47	26.95
	R.H.	-	-	-	-	-	-	-	-	-	-
State	Maxi.	39.81	39.23	38.90	38.65	37.45	36.86	35.89	34.99	33.53	33.49
	Mini.	26.09	26.83	26.83	26.75	26.35	27.30	27.11	26.49	26.26	26.23
	R.H.	74.4	74.4	77.7	77.3	79.3	80.3	82.5	84.0	86.4	82.6

Table 6.0 (Contd.)

Zone	Item.	29 July	30 July	31 July	32 August	33 August	34 August	35 August	36 August	37 September	38 September
Zone I	Maxi.	31.10	29.86	29.00	29.49	29.14	29.98	29.62	29.49	30.34	31.45
	Mini.	25.97	26.11	26.05	26.49	26.29	26.21	26.10	26.09	25.79	25.83
	R.H.	90.8	93.4	91.0	88.0	90.3	88.6	91.7	89.7	89.6	89.3
Zone IV	Maxi.	31.05	31.20	30.01	29.96	30.14	31.10	30.80	31.16	31.59	32.96
	Mini.	26.11	25.86	25.61	25.75	25.58	25.98	22.12	25.30	25.36	25.40
	R.H.	88.2	89.7	89.8	90.3	89.4	88.2	90.5	87.9	89.1	84.7
Zone V	Maxi.	33.44	32.54	31.25	31.50	31.67	31.80	32.24	31.87	31.27	33.79
	Mini.	25.74	25.66	25.11	26.74	25.40	24.98	25.67	25.75	25.87	26.63
	R.H.	87.2	85.2	87.2	86.5	87.1	87.3	84.00	82.0	81.8	82.2
Zone VI	Maxi.	32.97	33.14	32.78	31.24	30.74	31.69	31.93	32.12	33.23	34.48
	Mini.	25.36	25.84	25.64	24.71	24.92	24.25	24.93	23.07	24.71	25.79
	R.H.	93.5	91.2	92.5	94.7	95.1	93.3	90.6	88.9	90.9	88.0
Zone VIII	Maxi.	34.18	34.36	32.62	32.64	32.70	32.97	33.10	33.43	33.71	35.28
	Mini.	25.47	25.75	25.55	25.17	24.71	24.91	24.72	24.39	24.35	24.20
	R.H.	84.6	85.4	86.8	87.2	86.7	84.0	83.9	83.1	82.8	80.8
Zone IX	Maxi.	33.56	32.54	31.40	31.01	30.86	31.54	31.49	33.61	32.46	32.96
	Mini.	24.93	24.58	24.32	24.33	23.71	23.77	23.04	22.36	22.49	22.21
	R.H.	90.3	90.6	92.3	91.4	91.5	90.2	90.9	89.7	88.8	87.7
Zone XI	Maxi.	31.31	30.83	30.15	30.20	30.61	31.00	30.77	30.87	31.65	33.15
	Mini.	25.08	24.88	24.90	24.80	24.66	24.77	24.45	24.13	23.81	23.38
	R.H.	87.4	89.2	89.4	90.0	88.7	88.9	89.4	88.0	88.4	86.8
Zone XII	Mini.	29.95	30.38	29.57	30.34	30.67	31.43	30.67	30.00	31.53	31.95
	Mini.	26.52	27.24	26.86	27.44	26.95	26.83	26.57	26.43	26.86	27.52
	R.H.	-	-	-	-	-	-	-	-	-	-
State	Maxi.	32.41	32.03	30.98	30.87	30.84	31.47	31.42	32.55	32.03	33.34
	Mini.	25.62	25.69	25.45	25.61	25.77	23.70	24.58	24.67	24.84	25.14
	R.H.	88.0	89.2	89.8	88.4	89.6	88.6	88.6	86.90	87.3	85.6

Table 6.0 (Contd.)

Zone.	Item.	Week No.									
		39	40	41	42	43	44	45	46	47	48
		October					November				
Zone I	Maxi.	32.12	33.20	34.07	34.02	33.44	34.13	32.68	32.04	29.76	29.47
	Mini.	25.17	27.07	25.87	25.38	24.46	24.39	22.06	21.27	19.78	20.22
	R.H.	82.7	85.1	77.2	75.1	69.7	71.1	59.6	63.1	65.8	63.5
Zone IV	Maxi.	33.09	34.15	35.10	35.17	34.62	34.12	24.07	33.36	32.47	31.11
	Mini.	25.01	24.39	24.12	23.15	21.71	20.35	19.26	18.68	18.06	17.51
	R.H.	87.0	83.4	83.7	70.5	70.9	67.1	60.4	62.6	65.9	65.4
Zone V	Maxi.	35.64	35.49	36.41	36.94	36.51	35.68	35.17	34.71	33.51	31.10
	Mini.	26.57	25.57	25.39	24.63	24.40	22.42	21.79	20.96	18.70	14.54
	R.H.	82.3	80.5	79.2	81.0	76.2	79.4	76.3	76.4	65.9	64.6
Zone VI	Maxi.	64.61	35.18	35.82	35.61	35.20	34.54	34.25	33.34	32.28	29.98
	Mini.	23.71	23.57	22.57	29.93	21.43	17.21	14.43	14.25	14.64	12.39
	R.H.	87.3	83.3	78.5	75.4	68.7	67.0	66.7	64.4	66.8	73.8
Zone VIII	Maxi.	30.69	37.05	37.79	37.62	36.72	39.89	35.09	34.32	33.77	31.62
	Mini.	24.18	23.40	23.18	22.54	20.97	19.69	18.74	17.81	16.53	15.34
	R.H.	75.3	72.5	68.0	67.2	61.6	56.0	61.6	54.8	56.7	58.5
Zone IX	Maxi.	33.94	33.88	35.46	35.24	35.11	36.68	33.50	32.86	31.81	29.13
	Mini.	22.36	22.25	20.24	20.21	18.47	17.07	15.72	15.58	14.76	13.03
	R.H.	84.4	84.9	83.9	87.7	74.1	71.4	67.0	70.7	70.1	69.4
Zone XI	Maxi.	33.90	34.86	35.31	35.84	35.39	35.51	34.80	34.07	32.80	31.59
	Mini.	22.96	22.61	22.37	21.06	19.00	18.15	17.49	16.56	15.98	16.37
	R.H.	35.9	85.0	84.0	80.8	74.9	72.3	70.9	70.8	71.5	72.8
Zone XII	Maxi.	32.48	32.81	32.86	33.24	32.71	32.42	33.19	31.62	32.76	32.76
	Mini.	26.81	26.05	26.14	25.86	25.76	23.52	20.85	20.48	21.05	19.62
	R.H.	-	-	-	-	-	-	-	-	-	-
State.	Maxi.	33.33	34.68	35.53	35.59	35.09	35.15	34.11	33.35	32.35	30.67
	Mini.	23.13	24.94	23.66	23.03	21.83	20.28	18.72	18.15	17.28	15.86
	R.H.	84.1	82.1	79.2	76.1	70.9	69.3	64.6	65.7	66.1	66.9

Table 6.0

(Contd.)

Zone	Item.	Week No.			
		49	50	51	52
		December.			
Zone I	Maxi.	27.92	26.14	26.01	25.91
	Mini.	19.02	17.21	16.86	16.55
	R.H.	65.4	67.4	69.6	78.0
Zone IV	Maxi.	20.44	30.29	30.26	29.45
	Mini.	16.41	16.08	15.56	15.51
	R.H.	69.6	72.3	73.4	74.3
Zone V	Maxi.	30.86	30.52	31.38	30.81
	Mini.	14.38	13.17	13.72	13.72
	R.H.	68.3	68.9	66.4	66.1
Zone VI	Maxi.	29.85	29.38	28.81	27.75
	Mini.	12.21	11.21	11.18	11.19
	R.H.	75.4	77.3	76.9	75.1
Zone VIII	Maxi.	30.62	30.47	30.17	28.95
	Mini.	14.58	14.35	13.35	12.46
	R.H.	61.2	62.6	64.2	61.9
Zone IX	Maxi.	30.29	26.57	25.48	26.34
	Mini.	13.34	12.58	10.13	10.08
	R.H.	74.2	67.9	71.2	77.5
Zone XI	Maxi.	32.02	30.92	31.11	30.28
	Mini.	15.87	14.63	13.30	13.67
	R.H.	72.0	71.3	72.7	70.2
Zone XII	Maxi.	30.23	30.76	19.71	29.93
	Mini.	18.86	18.29	18.67	17.70
	R.H.	-	-	-	-
State	Maxi.	28.13	29.17	28.22	28.48
	Mini.	15.19	14.43	13.83	13.46
	R.H.	69.4	69.7	70.6	71.9

LVIII

ANNEXURE - 1.00

The standard Weeks

Week No.	Dates	Weeks No.	Dates
1. January	-1-7	27. July	2-8
2.	8-14	28	9-15
3.	15-21	29	16-22
4.	22-28	30	23-29
5.	29-4	31	30-5
6. February	5-11	32 August	6-12
7.	12-18	33	13-19
8.	19-25	34	20-26
9.	26-4 *	35	27-2
10 March	5-11	36 September	3-9
11.	12-18	37	10-16
12	19-25	38	17-23
13	26-1	39	24-30
14 April	2-8	40 October	1-7
15	9-15	41	8-14
16	16-22	42	15-21
17	23-29	43	22-28
18	30-6	44	29-4
19 May	7-13	45 November	5-11
20	14-20	46	12-18
21	21-27	47	19-25
22	28-3	48	26-2
23 June	4-10	49 December	3-9
24	11-17	50	10-16
25	18-24	51	17-23
26	25-1	52	24-31

* In leap year the week No. 9 will be 26 February to 4 March i.e. 8 days instead of 7.

@ Last week will have 8 days, 24 to 31 december.

Source :- Directorate of Agricultural Meteorology Poona.

Annexure 2.00 (Name of zone) Madhul Soli - Madhe zone.

Area under crop: 1 taluk and percentage NSA (Average 1968-69 to 1970-71)

Area in hectares.
% of NSA

Group 'A'

Group A short & medium Khairif crop; Group B long duration Khairif crop
Group C Kharif crop; Group D other crops.

Group 'B'

No.	Area	Paddy %	Bajri %	Millets %	Other %	Groundnut %	Other %	Group Total	Cotton %	Tobacco %	Other %	Group Total													
1. Danta.	19293	332	1.7	2258	11.7	7206	37.4	11221	6.3	722	3.7	4896	25.4	16635	86.2	1436	7.4	7	-	995	6.2	406	2.1	2838	14.7
2. Khodwarhama	36211	1060	2.9	142	0.4	13599	37.6	2952	8.1	1082	3.0	5000	13.8	23841	65.8	10940	30.2	6	-	371	1.1	316	0.6	11538	31.9
3. Idar.	86803	1566	1.8	7803	9.1	12666	14.8	5911	6.8	14166	16.5	11974	14.0	54086	63.0	27735	32.3	6	-	478	0.6	1468	1.7	29687	34.6
4. Vijayangar	10543	1612	15.3	14	0.1	6240	59.2	190	1.8	183	1.8	1384	13.1	9623	91.3	579	5.5	-	-	5	0.1	35	0.3	619	5.9
5. Bhiloda.	34763	2618	7.2	2351	6.8	12228	35.2	1970	5.7	3937	11.3	4038	11.6	27042	77.8	5992	17.2	-	-	465	1.3	360	1.1	6817	19.6
6. Modasa.	60781	1379	2.3	12330	20.3	9812	16.1	1872	3.1	15029	24.7	5058	8.3	45480	74.8	13592	22.4	9	-	830	1.4	930	1.5	16361	25.3
7. Meghraj.	32804	4278	13.4	5291	16.1	9028	27.5	841	2.6	2463	7.5	5356	16.3	27357	83.4	4360	13.0	14	-	805	2.5	266	0.8	5351	16.3
8. Malpur.	21723	1648	7.6	5388	24.8	4090	18.8	332	1.5	4804	22.1	2837	13.1	13099	87.9	2175	10.0	7	Nil	265	1.2	162	0.8	2609	12.0
9. Bayad.	61424	1809	2.9	12493	20.3	8600	14.0	340	0.6	12811	20.9	6213	10.1	42266	68.8	17680	28.7	37	0.1	468	0.8	676	1.1	18861	30.7
10. Balasinor	35281	3452	9.8	7241	20.5	5648	15.7	694	2.0	3622	10.3	3325	9.4	23882	67.7	9776	27.7	615	1.8	683	1.9	179	0.5	11853	31.9
11. Luvnada.	57163	12486	21.9	12179	21.3	10589	18.5	856	1.5	7095	12.4	7265	12.7	50470	88.3	4579	8.0	22	0.1	1215	2.1	247	0.4	6063	10.6
12. Santampur	70462	22160	31.4	3623	5.2	26303	35.9	1422	2.0	1746	2.5	12985	18.4	67239	95.4	791	1.1	84	0.1	1703	2.4	437	0.6	3015	4.2
13. Shebura.	30147	6489	21.5	6623	22.0	5655	18.4	344	1.2	1390	4.6	6513	21.6	29314	89.3	2066	6.9	374	1.2	750	2.5	133	0.4	3323	11.0
14. Jhalod.	46849	8298	17.7	8	-	1841	42.4	348	0.7	7014	15.0	7166	15.3	42875	91.1	42	0.1	17	-	906	1.9	516	1.1	1481	3.1
15. Gadhwa.	61872	14105	22.9	7196	11.7	13308	21.6	1634	2.7	4425	7.2	11764	19.1	52432	85.2	6482	10.5	1563	2.5	1577	2.6	289	0.5	9911	16.1
16. Dewnada Baria	58218	9510	16.3	3449	5.9	17382	29.9	1279	2.2	5641	9.7	15262	26.2	52823	90.2	4504	7.7	19	-	1918	3.3	97	0.2	6638	11.2
17. Limkhada	43220	9787	22.6	127	0.3	19740	45.7	100	0.2	4538	10.5	7690	17.8	41982	97.1	268	0.6	30	0.1	799	1.8	244	0.6	1341	3.1
18. Dabod.	48386	5146	10.6	157	0.3	29832	55.5	1196	2.5	2943	6.1	8351	17.2	44625	92.2	143	0.3	8	-	947	2.0	205	0.4	1303	2.7
zone.	45258	5985	13.2	4926	10.9	12643	27.9	1306	2.9	5201	11.5	7060	15.6	37121	82.0	6280	13.9	156	0.3	843	1.9	382	0.8	7661	16.9

MSA Area, Paddy % Area, Bajra % Area, Millets % Area, Other % Area, Roundnut % Area, Other % Area, Group Total, Cotton % Area, Tobacco % Area, Other % Area, Group Total.

Annexure 2.00 (Cont.)

Sr. No.	Taluka.	Group 'C'										Group 'D'										Total Area.	Irrigated Area.	
		Area	% Area	% Area	% Area	% Area	% Area	% Area	% Area	% Area	% Area	Area	% Area	% Area	% Area	% Area	% Area	% Area	% Area	% Area				
1.	Dagda.	2187	11.4	4	448	2.3	1118	5.8	3757	19.5	-	-	-	-	107	0.6	204	1.0	311	1.6	23541	122.0	5195	26.9
2.	Bhedbrahma.	2680	7.1	-	483	1.3	98	0.3	3161	8.7	-	2	-	-	277	0.8	345	0.9	624	3.7	39159	108.1	5142	14.2
3.	Idar.	7087	8.3	6	86	0.1	1365	1.6	8544	10.0	4	33	-	-	229	0.3	2771	3.2	3037	3.5	95354	111.1	19880	28.2
4.	Vijaynagar.	1437	13.6	-	1414	13.4	195	1.9	3046	28.9	-	3	-	-	98	0.9	292	2.8	393	3.7	13681	129.8	2878	18.8
5.	Bhildada.	2354	9.6	-	843	2.4	293	0.9	4490	12.9	-	4	-	-	245	0.7	652	1.9	901	2.6	39254	112.9	6615	19.0
6.	Kodaga.	3183	5.2	2	34	0.1	64	0.1	3283	5.4	-	18	-	-	3	-	1334	2.2	1355	2.2	65479	107.7	6162	10.1
7.	Meghraj	1209	3.7	13	336	1.0	74	0.3	1632	5.0	-	-	-	-	4	-	63	0.2	67	0.2	34407	104.9	1766	5.4
8.	Kalpur	776	3.6	11	130	0.6	59	0.3	976	4.5	-	-	-	-	-	-	62	0.3	62	0.3	22746	104.7	1090	5.0
9.	Bayad.	1668	2.7	1	21	0.1	136	0.2	1825	3.0	4	13	-	-	7	-	893	1.5	917	1.5	63870	104.0	4648	7.6
10.	Balasnor	658	1.9	36	0.1	38	0.1	52	0.1	777	2.2	-	20	-	-	-	234	0.6	244	0.6	36156	102.4	1091	3.1
11.	Lunawada.	2271	4.0	43	0.1	1211	2.1	205	0.3	3730	6.5	-	-	-	31	0.1	116	0.2	147	0.3	60410	105.7	2633	4.6
12.	Santrapur.	3689	5.3	690	0.7	7638	10.8	585	0.9	12432	17.7	-	-	-	41	0.1	261	0.4	302	0.5	82988	117.8	1938	2.8
13.	Bhadra.	600	2.0	5	452	1.5	100	0.3	1157	3.8	-	-	-	-	3	-	51	0.2	54	0.2	31448	104.3	735	2.4
14.	Jhalol.	4577	9.8	-	6984	14.9	582	1.2	12143	25.9	-	-	-	-	6	-	1876	4.0	1882	4.0	56181	124.1	2771	5.9
15.	Gadhwa.	1438	2.3	48	0.1	1874	3.1	509	0.8	3869	6.3	-	-	-	28	-	187	0.3	210	0.3	66423	107.9	3080	5.0
16.	Davgadh Baria.	839	1.5	67	0.1	1810	3.1	24	-	2730	4.8	-	-	-	9	-	1397	2.4	1406	2.4	63257	108.6	1183	2.0
17.	Limbada.	1071	2.5	2	-	488	10.9	76	0.1	5847	13.5	-	-	-	3	-	280	0.7	283	0.7	49453	114.4	1172	2.7
18.	Dated.	4192	8.7	-	8532	17.6	1181	2.4	13905	28.7	-	-	-	-	-	-	2055	4.2	2055	4.2	61888	127.8	3121	6.4
Grand Total.		2382	5.3	43	0.1	2056	4.5	373	0.8	4854	10.7	1	5	-	60	0.1	726	1.7	792	1.8	50428	111.4	3864	8.7

Amunre 2.01 Residual Soil - Cotton zone.
Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares.
% = % of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop;
Group C Kharif crop; Group D other crops.

Sr. No.	Taluka.	Group 'A'										Group 'B'													
		NSA Area	Paddy Area	Bajri Area	Milze Area	Jowar Area	Groundnut Area	Others Area	Group Total Area	Cotton Area	Tobacco Area	NSA Area	Others Area	Group Total Area	NSA Area	Others Area	Group Total Area								
1.	Halol.	30652	5374	17.4	2053	6.7	2860	7.4	3020	9.8	5271	17.2	4034	13.2	22012	71.8	9009	29.4	40	0.1	724	2.4	68	9841	
2.	Jambhoda.	5751	1212	21.1	315	5.5	434	7.5	1198	20.8	400	7.0	1491	25.9	5050	87.8	1266	22.0	2	-	152	2.6	10	0.2	9841
3.	Jambhoda.	50667	5367	10.6	1241	2.5	3516	7.0	8028	15.9	4331	8.6	9035	17.8	15116	62.4	1534	2	24	-	1764	3.5	103	0.2	1430
4.	Chhoti Udepur.	63657	6752	10.6	470	7.7	5670	8.9	7237	11.4	6442	10.1	19928	31.2	46499	73.1	12115	19.0	18	0.1	2612	3.9	109	0.2	17223
5.	Nasvadi.	23645	4032	13.6	666	2.3	7543	5.2	4456	15.0	684	2.3	2012	6.8	13393	45.2	13140	44.3	16	-	817	2.8	50	0.2	14023
6.	Nandod.	50829	3873	7.5	4151	8.2	747	1.5	10210	20.1	2179	4.3	2403	4.7	23503	46.3	21994	43.3	61	0.1	1712	3.4	88	0.1	23855
7.	Dadlveda.	24422	4114	16.8	88	0.4	449	1.8	5217	21.4	489	2.0	6022	24.7	16389	67.1	5428	22.2	3	-	1263	5.2	191	0.8	6885
8.	Sagbari.	24941	5019	20.1	88	0.2	112	0.5	8988	36.0	301	1.2	3807	15.3	18285	73.3	4213	17.0	-	-	1791	6.8	310	1.2	6224
9.	Nizar.	31161	1533	4.9	76	0.3	32	0.1	17453	56.0	4182	13.4	2390	7.7	25666	82.4	171	0.5	-	-	1645	5.3	781	2.5	2897

zone. 34625 4135 12.0 1014 2.9 1640 4.7 7312 21.1 2699 7.8 5680 16.4 22480 64.9 9186 26.5 18 1366 4.0 180 0.6 D 760 31.1

Sr. No.	Taluka.	Group 'C'										Group 'D'									
		Wheat Area	Maize Area	Gram Area	Others Area	Group Total Area	Banana Area	Mango Area	Jowar Area	Others Area	Group Total Area	Gross Crop Area	Net Irrigated Area	Wheat Area	Maize Area	Gram Area	Others Area	Group Total Area	Banana Area	Mango Area	Jowar Area
1.	Halol.	206	0.7	237	0.8	68	0.2	58	0.2	569	1.9	-	-	-	-	-	-	-	-	-	-
2.	Jambhoda.	28	0.5	5	0.1	110	0.2	7	0.1	50	0.9	-	-	-	-	-	-	-	-	-	-
3.	Jambhoda.	338	0.7	59	0.1	115	0.2	65	0.2	577	1.2	77	0.1	11	-	-	-	-	-	-	-
4.	Chhoti Udepur.	156	0.3	36	0.1	496	0.8	76	0.1	764	1.2	2	-	-	-	-	-	-	-	-	-
5.	Nasvadi.	256	0.9	35	0.1	46	0.2	16	0.1	353	1.2	16	0.1	1	-	-	-	-	-	-	-
6.	Nandod.	225	0.6	86	0.2	26	0.3	130	0.2	537	1.0	56	0.1	51	0.1	-	-	-	-	-	-
7.	Dadlveda.	82	0.3	23	0.1	99	0.4	69	0.3	273	1.1	-	-	8	-	-	-	-	-	-	-
8.	Sagbari.	423	1.7	3	-	66	0.3	37	0.1	529	2.1	-	-	1	-	-	-	-	-	-	-
9.	Nizar.	2643	8.5	-	-	753	2.4	598	1.9	3999	12.8	68	0.2	-	-	-	-	-	-	-	-

zone. 492 1.4 54 0.8 187 0.6 117 0.3 850 2.5 24 0.1 10 39 0.1 1287 3.7 1360 3.9 35450 102.4 1960 5.7

Group 'C'

Group 'D'

ANNEXURE 2.02. RESIDUAL SOIL - PADDY ZONE
AREA UNDER CROPS IN THE JEAS AND PERCENTAGE NSA (AVERAGE 1968-1969 to 1970 - 1971).
Area in hectares
% of NSA

GROUP 'A' SHORT DURATION KHARIF CROP ; GROUP B LONG DURATION KHARIF CROP ; GROUP 'C' RABT CROP ;
GROUP 'D' OTHER CROPS

Sr. Taluka No.	NSA	Paddy		Bajra		Kajne		Jowar		Groundnut		Others		Group total		Cotton		Tobacco		Tur		Others		Grand total		
		Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Bengauli	41152	7341	17.8	-	-	-	-	#	8041	19.6	3965	9.6	11388	27.7	30735	74.7	3605	8.8	-	-	2599	5.7	146	0.4	6350	15.4
Uttahli	10017	1802	18.0	-	-	-	24	.2	2869	28.7	442	4.4	2639	26.3	7776	77.6	1088	10.9	-	-	840	8.4	38	0.4	1966	19.7
Vyara	48837	10834	22.2	-	-	-	-	-	10309	21.1	7061	14.5	4369	8.9	32573	66.7	7619	15.6	-	-	1922	3.9	190	0.4	9731	19.9
Alwa	49011	5012	10.2	-	-	-	285	0.6	408	0.8	768	1.6	29714	60.6	36187	75.8	7	-	-	-	2489	5.1	65	0.1	2561	5.2
Chittalli	48959	15067	30.8	-	-	-	4	-	3401	6.9	527	1.1	2610	5.3	21609	44.1	2708	5.5	-	-	506	1.0	529	1.1	3743	7.6
Vaneda	29974	10044	35.5	3	-	-	-	-	3557	11.9	1859	6.2	4235	14.1	19698	65.7	1309	4.4	-	-	1175	3.9	39	0.1	2525	8.4
Maratapur.	54211	15287	28.2	-	-	-	-	-	91	0.2	29	0.1	20461	37.7	35868	66.2	1	-	-	-	3238	5.9	45	0.1	3282	6.0
B.Farid	35866	13910	37.8	-	-	-	-	-	-	-	-	-	1845	5.1	15755	43.9	-	-	-	-	454	1.5	159	0.4	613	1.7
9. Umbar- gaul.	24884	9841	39.6	1	-	-	-	-	28	0.1	3	-	540	2.2	10413	41.9	-	-	-	-	178	0.7	95	0.4	273	1.1
Average of Zone	38101	9904	26.0	1	-	-	35	0.1	3189	8.3	1628	4.3	8645	22.7	23402	61.4	1815	4.8	-	-	1489	3.9	145	0.4	3449	9.1

GROUP 'C'

GROUP 'B'

Sr. Taluka No.	NSA	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
1.304	1.2	544	1.3	434	1.1	461	1.1	1943	4.7	-	-	25	0.1	-	-	57	0.1	4248	10.3	4530	10.5	4358	105.3	1089	2.6		
2.45	0.4	50.1	80	0.8	24	0.2	154	1.5	-	-	-	-	-	-	-	10	0.1	164	1.6	174	1.7	10070	100.5	90	0.9		
3.1105	2.3	2447	5.0	367	0.8	404	0.8	4323	8.9	7	-	8	ML	-	-	251	0.5	5502	11.3	5768	11.8	52395	107.3	2535	5.2		
4.46	0.1	17	-	126	0.3	5389	11.0	5578	11.4	-	-	-	-	-	-	3	-	4844	9.9	4847	9.9	49173	100.3	124	0.3		
5.752	1.5	4786	9.8	291	0.6	364	0.8	6195	12.7	61	0.1	1774	3.6	-	-	351	0.7	20787	42.5	22973	46.9	54518	111.3	4143	8.5		
6.226	0.8	762	2.5	245	0.8	422	1.4	1655	5.5	30	0.1	244	0.8	-	-	90	0.5	7301	24.4	7665	25.6	31541	105.2	699	2.3		
7.121	0.2	497	0.9	80	0.2	2507	4.6	3205	5.9	7	-	466	0.8	-	-	137	0.5	12237	22.6	12847	23.7	55202	101.8	376	0.7		
8.283	0.8	3881	10.8	121	0.3	354	1.0	4639	12.9	108	0.3	3473	9.7	66	0.2	427	1.2	15602	43.5	19676	54.9	40683	113.4	5469	15.2		
9.98	0.4	599	2.2	40	0.2	180	0.7	877	3.5	51	0.2	442	1.8	51	0.2	16	0.1	13605	54.7	14165	56.9	25728	103.4	707	2.8		
1.353	0.9	1900	3.9	198	0.5	1123	3.0	3174	8.3	29	0.1	715	1.9	13	-	149	0.4	936	24.6	10272	27.0	40297	105.8	1692	4.4		

ANNEXURE 2-03. DEEP BLACK SOIL - CULTURAL ZONE

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71)

Area in hectares
% of NSA

GROUP 'A' SHORT DURATION KHARIF CROP : GROUP 'B' LONG DURATION KHARIF CROP :
GROUP 'C' RABI CROP : GROUP 'D' OTHER CROPS.

Sr. No.	Taluka	GROUP 'A'										GROUP 'B'														
		NSA Area	Paddy Area	Bajri Area	Milke Area	Jowar Area	Groundnut Area	Others Area	Group Total Area	Cotton Area	Tobacco Area	Tea Area	Other Area	Group Total Area												
1	Asod	38018	575	1.5	164	0.5	9	-	4399	11.6	5	-	1573	4.1	6725	17.7	26999	71.0	4	-	250	0.6	23	0.1	27276	71.7
2	Karjan	51899	1932	3.7	186	0.4	18	-	5732	11.0	5	-	1302	2.6	9175	17.7	38086	73.4	17	-	941	1.8	99	0.2	39143	75.4
3	Martua	50807	724	1.4	11	-	-	-	5671	11.2	39	0.1	1435	2.8	7881	15.5	34231	67.4	86	0.2	787	1.5	110	0.2	35214	69.3
4	Dabhol	52474	5188	9.9	815	1.5	8	-	5671	10.8	676	1.3	728	1.4	13086	24.9	34700	66.8	20	-	899	1.7	67	0.8	35686	68.0
5	Banboda	55426	4687	8.5	1671	3.0	216	0.4	6655	12.0	1941	3.5	2633	4.7	17803	32.1	30243	54.6	8	-	1406	2.5	56	0.1	31715	57.2
6	Shinor	23670	1451	6.0	651	2.7	41	0.2	2481	10.4	87	0.4	479	2.0	5190	21.7	16319	68.3	12	0.1	527	2.2	88	0.4	16946	71.8
7	Waghodia	43036	5781	13.4	996	2.3	11	-	5457	12.7	1502	3.5	1663	3.9	15410	35.8	26601	61.8	157	0.4	644	1.5	71	0.2	27473	63.9
8	Flakdeva	19065	1228	6.4	1547	8.1	66	0.3	3615	19.0	15	0.1	430	2.3	6901	36.2	9783	51.3	2	-	744	3.9	8	-	10537	55.2
9	Abtlesh- var.	33132	485	1.5	0	-	3	-	9367	28.3	930	2.8	573	1.7	11366	34.3	15680	47.3	97	0.3	932	2.8	49	0.1	16798	50.3
10	Jhagadia	49544	1913	3.9	837	1.7	229	0.4	12192	24.6	1531	3.1	2364	4.8	19066	37.5	23603	47.6	139	0.3	1837	3.7	99	0.2	25678	51.8
11	Valla	49800	4266	10.5	142	0.3	118	0.3	8444	20.7	2506	6.1	883	2.2	16359	40.1	18184	44.6	8	-	777	1.9	82	0.2	19051	46.7
12	Mangrol	60619	4526	7.5	50	0.1	59	0.1	17507	28.9	4645	7.7	4815	7.9	31602	52.2	18309	30.2	2	-	1792	3.0	156	0.2	20259	38.4
13	Kandari	43002	5727	13.3	31	0.1	14	-	13650	31.8	4197	9.8	2121	4.9	25740	59.9	9653	22.5	6	-	741	1.7	107	0.2	10905	24.4
14	Kamrej	31577	2495	7.9	2	-	2	-	4475	14.2	2368	7.5	2290	7.2	11632	36.8	10024	31.8	8	-	352	1.1	153	0.5	10537	33.4
15	Bardoli	31562	6330	20.1	2	-	3	-	4022	12.7	1198	3.8	365	1.8	11920	37.8	5917	18.7	-	-	801	2.5	235	0.8	6953	22.0
16	Palsana	17239	1770	10.2	16	0.1	-	-	2686	15.6	1326	7.7	156	0.9	5954	34.5	3071	17.8	-	-	346	2.0	81	0.5	3498	20.3
17	Kahwa	27668	5352	19.3	-	-	-	-	6144	22.2	3322	12.0	2891	10.5	17709	64.0	4172	15.1	13	-	545	2.0	160	0.6	4890	17.7
18	Valad	17614	3400	19.3	1	-	2	-	4189	23.8	1991	11.3	492	2.8	10075	57.2	3650	20.7	-	-	448	2.6	58	0.3	4156	23.6
Zone		38186	3213	8.4	396	1.0	44	0.1	6798	17.8	1571	4.1	1511	4.0	13533	35.4	18290	47.9	32	0.1	821	2.2	94	0.2	19237	50.4

Sr. No.	GROUP 'C'										GROUP 'D'										Net irrigated area	Irrig.				
	Unsat. Area	%	Vel. Area	%	Grass Area	%	Others Area	%	Group total Area	%	Banana Area	%	Mango Area	%	Cocunut Area	%	Sugarcane Area	%	Others Area	%			Group total Area	%	Gross cropped Area	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1.	850	2.5	18	-	34	0.1	2281	6.0	3183	8.4	1	-	-	-	-	-	-	-	1171	3.1	1172	3.1	38356	100.9	14993	79.4
2.	1321	2.5	149	0.3	45	0.1	444	0.9	1959	3.8	10	-	8	-	-	-	4	-	2861	5.5	2883	5.5	53160	102.4	18463	35.6
3.	1132	0.8	140	0.1	51	0.1	3658	7.2	4981	9.8	156	0.3	20	-	-	-	7	-	2800	5.5	2983	5.8	51059	100.4	12495	24.6
4.	1758	3.4	37	0.1	95	0.2	85	0.1	1973	3.8	2	-	22	0.1	-	-	18	-	3690	7.0	3732	7.1	54477	103.8	7039	13.4
5.	802	1.4	85	0.2	41	0.1	85	0.2	1013	1.8	219	0.5	35	0.1	-	-	75	0.1	5935	10.7	6264	11.4	56793	102.5	4998	8.3
6.	565	2.4	52	0.2	23	0.1	78	0.3	718	3.0	18	0.1	14	0.1	-	-	-	-	1610	6.7	1642	6.9	24496	102.6	10013	41.9
7.	803	1.9	83	0.2	325	0.7	53	0.1	1264	2.9	6	-	84	0.2	-	-	10	-	1389	3.2	1489	3.4	45636	106.0	3459	8.0
8.	41	0.2	22	0.1	12	0.1	7	-	82	0.4	1	-	1	-	-	-	-	-	1660	8.8	1662	8.8	19182	100.6	177	0.9
9.	829	2.5	103	0.3	63	0.2	397	1.2	1392	4.2	76	0.2	201	0.6	-	-	3	-	3554	10.8	3834	11.6	33350	100.6	2164	6.5
10.	346	0.7	248	0.5	34	0.1	168	0.3	796	1.6	102	0.2	31	0.1	-	-	5	-	4317	8.7	4455	9.0	49995	100.9	2855	5.8
11.	294	0.7	312	0.8	27	0.1	108	0.2	741	1.8	11	-	16	0.1	-	-	59	0.1	5070	12.4	5156	12.6	41307	101.2	4400	10.8
12.	506	0.8	156	0.3	83	0.1	169	0.3	914	1.5	4	-	-1	-	-	-	26	-	8410	13.9	8441	13.9	61215	101.0	1898	3.1
13.	608	1.4	1548	3.6	144	0.3	168	0.5	2488	5.8	52	0.1	9	-	-	-	14	0.3	6539	15.2	6714	15.2	45447	105.1	3187	7.4
14.	630	2.0	1457	4.6	24	0.1	434	1.4	2545	8.1	2784	8.8	121	0.4	-	-	1865	5.9	4032	12.8	8802	27.9	33576	106.2	9390	29.6
15.	878	2.8	4182	13.2	22	0.1	273	0.9	5355	17.0	830	2.6	210	0.7	-	-	3738	11.8	7941	25.2	12719	40.3	36947	1117.1	10216	32.4
16.	409	2.4	1092	6.3	28	0.2	220	1.3	1749	10.2	2571	14.9	252	1.5	-	-	1011	5.8	3838	22.3	7672	44.5	18873	109.5	7520	43.6
17.	401	1.5	2195	7.9	98	0.4	259	0.9	2953	10.7	46	0.1	131	0.5	-	-	610	2.2	4295	15.5	5081	18.3	30634	110.7	4820	17.4
18.	132	0.7	1513	8.6	35	0.2	106	0.6	1786	10.1	48	0.3	6	-	-	-	297	1.7	3120	17.7	3471	19.7	19488	110.6	986	5.6
Zone. 684		1.8	744	1.9	66	0.2	501	1.3	1994	5.2	385	1.0	65	0.2	-	-	436	1.1	4013	10.5	4899	12.8	39663	103.8	5841	15.3

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71)

Area in hectares
% - % of NSAGroup A short duration Kharif crop; Group B long duration Kharif crop;
Group C Rabi crop; Group D other crops.

Sr. No.	Taluka.	Group 'A'				Group 'B'				Group 'C'				Group 'D'				Group Total.								
		NSA Area	Paddy Area	Rajri Area	Maize Area	Jowar Area	Groundnut Area	Others Area	Group Total Area	Cotton Area	Tobacco Area	NSA Area	Group Total Area	NSA Area	Group Total Area	NSA Area	Group Total Area	NSA Area	Group Total Area							
1.	Anand.	55912	7120	12.7	15201	27.2	4	-	492	0.9	119	0.2	9624	17.2	32560	58.2	1253	2.2	21382	38.2	1253	2.3	610	1.1	24528	43.9
2.	Borad.	49436	6581	13.6	14101	29.1	7	-	1404	2.9	3	-	12850	25.9	34646	71.5	362	0.7	10439	21.6	1539	3.2	346	0.7	12886	26.2
3.	Petlad.	41147	6700	16.3	20957	50.9	-	-	671	1.6	-	-	7551	18.4	35879	87.2	780	1.9	6189	15.0	1054	2.6	136	0.3	8159	19.8
4.	Mediad.	55451	11461	20.7	24147	43.5	47	0.1	1115	2.0	442	0.8	9011	16.2	46223	83.3	1039	1.9	8047	14.5	1393	2.5	644	1.2	11128	20.1
5.	Thagra.	52183	8110	15.6	10514	20.1	1328	2.5	3239	6.2	1019	2.0	5059	9.7	29269	56.1	11094	21.3	10124	19.4	1108	2.1	287	0.6	22613	43.4
6.	Savli.	62356	5440	8.7	4733	7.6	92	0.2	5788	9.3	2271	3.6	5611	9.0	23935	38.4	26670	42.8	9564	15.3	643	1.1	163	0.2	37060	69.4
7.	Pada.	40599	3306	8.1	4733	11.7	71	0.2	2595	6.4	2	-	6060	14.9	16767	41.3	16142	39.7	2922	7.2	280	5.4	277	0.7	21541	53.0
8.	Vadodra.	50187	5236	10.5	3784	7.5	160	0.3	5188	10.3	142	0.3	4104	8.2	18614	37.1	18925	27.7	8032	12.0	1949	3.7	284	0.7	27140	54.1
9.	Kalad. (Pals)	27392	5422	19.8	4794	17.5	1446	5.3	903	3.3	7531	27.5	4269	15.6	24365	89.9	3263	11.9	445	1.6	576	2.1	177	0.7	4461	16.3
10.	Almoadabad. (City)	11051	1462	13.2	2557	23.1	4	-	1037	9.4	9	0.1	2453	22.2	7522	68.0	485	4.4	2	-	135	1.2	49	0.5	671	6.1
11.	Deasrad.	51467	14172	27.5	15884	30.9	11	-	6568	12.8	43	0.1	4670	9.1	41348	80.3	6489	12.6	53	0.1	736	1.4	817	1.6	8065	15.7
12.	Mahmedabad.	39838	10673	25.8	16911	42.5	4	-	337	0.8	102	0.3	8506	21.4	36533	91.7	1110	2.8	501	1.3	1721	4.3	439	1.0	3751	9.4
13.	Natar.	44468	17557	39.5	7595	17.1	11	-	2080	4.7	7	-	6502	12.3	32752	73.6	4296	9.5	943	2.1	1322	3.0	161	0.4	6662	15.0
14.	Kapdevanji.	77726	4636	6.0	27439	35.3	4012	5.1	982	1.3	15542	20.0	6494	8.3	59104	76.0	16619	21.4	528	0.7	1056	1.3	1094	1.4	19287	34.8
Zone.		47014	7706	16.4	12283	25.3	514	1.2	2314	4.9	1945	4.1	6633	12.9	31394	66.8	7746	16.5	5512	11.8	1188	2.5	283	0.8	14839	31.6

Sl. No.	Group 'C'										Group 'D'									
	Area of Wheat	Area of Maize	Area of Green Gram	Area of Others	Area of Group Total	Area of Banana	Area of Mango	Area of Coconut	Area of Sugarcane	Area of Others	Area of Group Total	Area of Gross crop - Net Irrigated	Area of	Area of	Area of	Area of	Area of	Area of	Area of	Area of
1. Annual.	3490 6.3	150 0.3	83 0.1	1169 2.1	4892 8.8	235 0.4	128 0.2	-	64 0.1	1326 2.4	1753 3.1	63733 114.0	28433 50.9							
2. Br. seed.	1699 3.6	184 0.4	27 0.1	360 0.7	2270 4.7	229 0.6	27 -	-	43 0.1	1108 2.2	1417 2.9	51019 105.3	1473 24.7							
3. Potted.	2961 7.2	84 0.2	115 0.3	307 0.7	3467 8.4	87 0.2	111 0.3	-	165 0.4	997 2.4	1361 3.3	48866 118.7	14730 35.8							
4. Milled.	6087 11.0	39 0.1	58 0.1	2116 3.8	8300 15.0	9 -	120 0.2	-	17 0.1	1446 2.6	1592 2.9	67238 121.3	22474 40.5							
5. Thresh.	2070 3.9	157 0.3	144 0.3	97 0.2	2468 4.7	2 -	1 -	-	-	695 1.3	698 1.3	56048 106.6	6661 10.7							
6. Savil.	893 1.4	65 0.1	227 0.4	112 0.2	1307 2.1	61 0.1	16 -	-	1 -	1170 1.9	1248 2.0	63550 101.9	6420 10.3							
7. Patta.	1609 4.0	164 0.4	78 0.2	893 2.2	2744 6.8	521 1.3	74 0.2	10 -	22 0.1	1293 3.4	2020 5.0	43072 106.1	8702 14.1							
8. Vaddara.	1478 2.9	48 0.1	84 0.2	956 1.9	2566 5.1	344 0.7	292 0.6	2 -	19 -	3020 6.0	3677 7.3	51997 103.6	18815 33.6							
9. Kall (Pul.)	1080 2.9	12 -	128 0.5	55 0.2	1270 4.6	2 -	6 -	-	46 0.2	23 0.1	77 0.3	30173 110.2	3099 11.3							
10. Almedabad. (Cl. by)	620 6.6	1 -	30 0.3	759 6.9	1410 12.8	2 -	30 0.3	-	10 0.1	2066 18.7	2168 19.1	11711 106.0	2697 24.4							
11. Dastur.	6534 12.7	9 -	7 -	1024 2.0	7574 14.7	1 -	47 0.1	-	87 0.1	561 1.1	656 1.3	57643 112.0	16768 32.6							
12. Mahmedabad.	3649 9.2	39 0.1	28 0.1	574 1.4	4290 10.8	-	15 -	-	-	382 1.0	397 1.0	44971 112.9	10797 27.1							
13. Katar.	7141 16.1	18 0.1	439 1.0	552 1.2	8170 18.4	62 .1	3 -	-	2 -	916 2.1	983 2.2	48667 139.2	18777 42.2							
14. Kapatnaji.	2760 3.6	6 -	70 0.1	741 0.9	3577 4.6	1 -	4 -	-	1 -	735 1.0	741 1.0	82709 106.4	7466 9.6							
Total.	3005 6.4	70 0.1	110 0.2	694 1.5	3679 8.2	112 0.2	62 0.1	1 -	32 0.1	1131 2.4	1338 2.8	51450 109.4	12230 26.0							

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares
% of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop;
Group C Kharif crop; Group D other crops.

Sr. No.	Taluka	NSA Paddy Area	Group 'A'										Group 'B'													
			Bajri Area	%	Maize Area	%	Jowar Area	%	Groundnut Area	%	Others Area	%	Group Total Area	Cotton Area	%	Tobacco Area	%	Tea Area	%	Others Area	%	Group Total Area				
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.

1.	Nehruvna.	66165	342	0.5	29526	44.6	9	0.011343	17.1	703	1.1	9075	13.7	50998	77.0	8314	12.6	22	-	206	0.3	2296	3.5	10838	16.4	
2.	Vijaynagar.	41874	41	0.1	19137	45.7	-	-	11340	27.1	44	0.1	3494	8.3	34056	81.3	646	1.5	266	0.6	776	1.9	2187	5.3	3875	9.3
3.	Vijapur	77364	108	0.1	34655	44.7	28	0.03	787	1.2	6463	8.4	16763	21.6	58799	76.0	4170	5.4	2253	2.9	1236	1.6	6412	8.3	14071	18.2
4.	Kadl.	67932	4241	6.3	20944	30.8	-	-	10133	14.9	470	0.7	6908	10.2	42695	62.9	20874	30.7	9	-	445	0.7	1956	2.9	23284	34.3
5.	Kalid (Hd)	40523	3387	8.4	13252	32.7	-	-	5324	13.1	-	-	4858	12.0	26821	66.2	8116	20.0	247	0.6	569	1.4	2106	5.2	11038	27.2
6.	Prantij.	62308	1837	2.9	22923	36.8	1399	2.2	3061	4.9	18974	30.5	4846	7.8	53040	85.1	5286	8.5	5	-	1421	2.3	1447	2.3	8159	13.1
7.	Dabgan.	48817	1271	2.6	25435	52.1	29	0.1	2687	5.2	5602	11.6	7586	15.5	42480	87.0	5035	10.3	33	0.1	1115	2.3	1089	2.2	7252	14.9
8.	Himastanga x.	51665	1168	2.2	10109	19.6	3109	6.0	3716	7.2	13130	25.4	3793	7.3	35013	67.7	15664	30.3	-	-	331	0.6	518	1.0	16513	31.9
9.	Chandana.	71647	84	0.1	24076	33.6	-	-	16580	23.1	529	0.7	8677	12.2	49946	69.7	9145	12.8	243	12.8	717	1.0	2840	4.0	12945	28.1
Zone.		58699	1385	2.3	22228	37.9	508	0.9	7205	12.3	5102	8.7	7333	12.5	43761	74.6	8583	14.6	342	0.6	787	1.3	2315	3.9	11997	20.4

Annexure 2.05 Contd.

Group 'C'														Group 'D'													
Sl. No.	Cultures	Wheat	Maize	Gram	Others	Group Total	Banana	Mango	Cocunut	Sugarcane	Others	Group Total	Gross Cropped Area	Net Irrigated Area													
1.	2.	3.	4.	5.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1.	Mehana.	7713	11.7	2	-	28	0.04	9081	13.7	16834	25.4	-	34	0.1	-	8	-	1301	2.0	1335	2.1	80006	120.9	24380	36.8		
2.	Vijaynagar.	5056	12.1	8	-	-	10501	25.1	15565	37.2	-	-	44	0.1	-	-	-	953	2.2	996	2.3	54491	130.1	17917	42.8		
3.	Vijaypur.	16870	21.8	98	0.1	-	8301	10.1	25269	32.6	-	-	734	0.9	-	9	-	3154	4.1	3888	5.0	102027	131.8	36578	47.4		
4.	Kadi.	6566	9.7	-	-	32	0.04	1362	2.0	7960	11.7	-	100	0.1	-	4	-	1073	1.6	1177	1.7	75117	110.6	16091	23.7		
5.	Kalid (Meh)	6554	16.2	-	-	-	1657	4.1	8211	20.3	-	-	71	0.1	-	-	-	1284	3.2	1355	3.3	47425	117.0	15768	38.9		
6.	Prantij.	4083	6.6	1	-	269	0.4	444	0.7	4797	7.7	-	166	0.3	-	1	-	1355	2.2	1522	2.5	67518	108.4	7895	12.2		
7.	Dehgam.	3577	7.3	3	-	4	-	589	1.2	4173	8.5	-	41	0.1	-	3	-	737	1.5	781	1.6	54686	112.0	10567	21.6		
8.	Himnagar.	3487	6.7	-	-	84	0.2	76	0.1	3617	7.0	-	25	-	-	22	-	839	1.7	886	1.7	56029	108.0	9090	-		
9.	Chandana.	1840	2.6	-	-	48	0.1	9270	12.9	11158	15.6	-	-	-	-	-	-	1635	2.3	1635	2.3	75684	105.7	12154	17.0		
Zona.														Zona.													
		6191	10.6	12	-	52	0.1	4588	7.8	10843	18.3	-	134	0.2	-	5	-	1369	2.3	1508	2.5	68109	116.0	16693	28.4		

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares
% of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop;
Group C Rabi crop; Group D other crops.

Group 'A'

Group 'B'

Sl. No.	Taluka.	NSA	Paddy		Bajri		Maize		Jowar		Groundnut		Others		Group Total		Cotton		Tobacco		Tur	Others		Area	Total			
			Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%		Area	%			Area	%	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.		
1.	Lakhpur.	8818	-	-	-	3484	38.5	-	733	8.3	290	3.3	4230	48.0	8737	99.1	3	-	-	-	-	-	-	41	0.5	44	0.5	
2.	Nakhtana.	49435	-	-	-	8992	18.2	-	2570	5.2	1454	29.4	22359	45.2	48598	98.3	625	1.3	-	-	-	-	-	265	0.5	890	1.8	
3.	Abdasa.	36314	-	-	-	15737	43.3	-	7591	20.9	1399	3.9	10582	28.0	35249	97.1	580	1.6	-	-	-	-	-	200	0.5	780	2.1	
4.	Bhuj.	75174	4	-	-	12890	17.1	-	10363	13.8	5160	6.9	42263	56.2	70727	94.1	3497	4.6	-	-	-	-	-	297	0.4	3794	5.0	
5.	Ma.	90379	-	-	-	59772	66.1	-	5139	5.7	-	-	32168	25.6	88079	97.4	1	-	1	-	-	-	-	747	0.8	767	0.8	
6.	Tharad.	11681	-	-	-	73115	65.5	-	5682	5.1	-	-	32100	28.7	110879	99.3	-	-	-	-	-	-	-	2002	1.8	2009	1.8	
7.	Deodra.	86002	-	-	-	51250	59.6	-	10512	12.2	5	-	20165	23.5	81962	95.3	822	1.0	-	-	-	-	-	1745	0.3	349	0.4	
8.	Dhanera.	86788	-	-	-	48141	55.5	-	13249	15.3	127	0.1	21874	24.9	83339	96.0	5	-	-	-	-	-	-	108	0.1	349	0.4	
9.	Deesa.	114927	31	-	-	59615	51.9	-	20678	18.0	99	0.1	29781	25.9	110243	95.9	33	-	-	-	-	-	-	150	0.1	1008	0.9	
10.	Kanirej.	69560	-	-	-	30808	44.3	-	13608	19.5	88	0.1	7279	10.5	51783	74.4	3088	4.4	-	-	-	-	-	865	1.3	3958	5.7	
11.	Palampur.	76205	281	-	-	28571	37.5	-	16526	21.7	523	0.7	21487	28.2	71781	94.2	413	0.5	293	0.4	513	0.7	624	0.8	1843	2.4	1843	2.4
12.	Wedga.	39956	387	-	-	13824	34.6	-	9643	24.1	816	2.0	10941	27.4	35935	89.9	13	-	32	0.1	148	0.4	320	0.8	513	1.3	513	1.3
13.	Patan (Meh)	80956	295	-	-	28300	34.9	-	24080	29.7	796	1.0	9879	12.2	63354	78.2	3095	3.8	145	0.2	592	0.7	2937	3.7	6769	8.4	6769	8.4
14.	Siddhpur.	49254	-	-	-	18944	38.5	-	15767	32.0	169	0.3	7548	15.3	42428	86.1	58	0.1	261	0.5	1124	2.3	1546	3.2	2989	6.1	2989	6.1
15.	Kharalu.	67073	282	-	-	22580	33.7	-	12634	24.4	5687	8.5	7719	11.5	53423	79.7	935	1.4	103	0.1	1590	2.4	3796	5.7	6424	9.6	6424	9.6
16.	Mandvi.	52728	-	-	-	9764	18.5	-	12445	23.6	11675	22.1	12835	24.4	46217	88.8	5840	11.1	-	-	-	-	-	100	0.2	5940	11.3	
17.	Mundra.	42317	-	-	-	4997	11.8	-	14986	35.4	1056	2.5	14056	33.2	35085	82.9	7828	18.5	-	-	-	-	-	62	0.2	7890	18.7	
18.	Anjer.	68124	-	-	-	9116	13.2	-	23672	34.3	1366	2.0	21999	31.8	56153	81.3	12573	18.2	-	-	-	-	-	430	0.6	13003	18.8	
19.	Bhachau.	88164	-	-	-	27842	31.6	-	13047	13.7	284	0.2	5961	40.8	76074	86.3	10270	11.6	-	-	-	-	-	2016	2.3	12286	13.9	
20.	Rapar.	97239	-	-	-	39537	40.7	-	16496	17.0	509	0.5	27930	28.7	84472	86.9	9999	10.3	-	-	-	-	-	2639	2.6	12538	12.9	
21.	Sanchalpur.	58865	-	-	-	27859	47.5	-	4268	7.2	30	0.1	15549	28.4	47806	81.2	5201	8.8	-	-	-	-	-	3601	6.1	8903	14.9	
22.	Rachapur.	43165	-	-	-	19315	44.8	-	5883	13.6	159	0.4	7220	16.7	32577	75.5	5160	12.0	-	-	-	-	-	87	0.2	6669	15.5	
23.	Harli.	28603	-	-	-	9565	32.3	-	7236	24.4	730	2.5	2790	9.4	20321	68.6	4451	15.0	-	-	-	-	-	136	0.5	801	2.7	
Zone.		66252	56	0.1	27137	40.9	261	0.4	11718	17.7	1976	3.0	17802	26.9	58950	89.0	3238	4.9	36	0.1	204	0.3	1200	1.8	4678	7.1	4678	7.1

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[illegible]

Annexure 2.1 Clay Alluvial Soil - Cotton / Dry Wheat - Zone

Area under crop in talukas and percentage NSA (Average 1962-69 to 1970-71).

Area in hectares
% of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop
Group C Rabi crop; Group D other crops.

Group 'A'

Group 'B'

No.	Sp. Taluka.	NSA	Paddy	Bajra	Melisso	Jowar	Groundnut	Others	Group Total	Cotton	Tobacco	Rur	Others	Group Total.												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1.	Saml.	94717	-	-	18130	19.1	-	-	23855	25.2	123	0.1	1260	1.3	43368	45.7	36355	38.6	-	-	-	22	628	0.7	37185	39.3
2.	Deгада.	107173	106	0.1	10309	9.6	-	-	25546	23.9	194	0.2	1098	1.0	37253	34.8	69582	64.9	-	-	-	-	11	69893	64.9	
3.	Virangam.	141833	1374	1.0	19066	13.4	-	-	31050	21.9	1985	1.4	6550	4.6	60025	42.3	75930	53.5	10	-	-	55	648	0.15	76643	54.0
4.	Melita.(M)	48776	-	-	10428	20.9	-	-	13249	26.6	3323	6.7	135	0.3	27130	54.6	22528	45.3	-	-	-	-	1	22529	45.3	
5.	Halvad.	79866	-	-	20320	25.5	-	-	16236	20.3	2238	2.9	2719	3.4	41613	52.1	38198	47.8	-	-	-	-	5	38203	47.8	
6.	Dhargadia.	89509	-	-	19537	21.8	2	-	20692	28.0	2219	2.6	3472	3.9	45922	51.3	43808	48.9	-	-	-	-	20	0.1	43828	49.0
7.	Lakhtar.	57294	74	0.1	8208	14.3	-	-	13247	23.1	478	0.9	988	1.7	22995	40.1	33396	58.3	-	-	-	-	4	33400	58.3	
8.	Samard.	63220	10862	17.2	4453	7.1	-	-	8801	13.9	86	0.1	6136	9.7	30338	48.0	24890	39.1	1083	1.7	70	0.1	101	0.1	25944	41.0
9.	Limbadi.	118806	309	0.2	18607	15.7	-	-	24266	20.4	3406	2.9	6211	5.2	52799	44.4	55060	46.3	-	-	-	-	84	0.1	55144	46.4
10.	Dhodka.	127528	8780	6.9	7276	5.7	-	-	16534	13.0	193	0.1	8196	6.4	40978	32.1	50735	39.8	57	0.1	270	0.2	536	0.4	51598	40.5
11.	Dhandhuka.	164891	53	0.03	16992	10.3	3	-	30541	18.5	3568	2.2	21674	13.2	72831	44.2	58666	35.5	-	-	4	-	202	0.1	58772	35.6
12.	Khemabhat.	67880	7678	11.3	15251	22.5	-	-	5364	7.9	-	-	8217	12.1	36510	53.8	10232	15.1	1469	2.2	1584	2.3	314	0.5	13665	20.1

2000.	96874	2436	2.5	14048	14.5	-	-	19107	19.7	1501	1.6	5555	5.7	42647	44.0	43276	44.7	218	0.2	167	0.2	213	0.2	43874	45.3
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Annexure 2.67 Contd.

Group 'C'

Group 'D'

Sr. No.	Taluka.	Wheat	Wet	Gram	Others	Group Total	Banana.										Mango										Coconut.										Sugarcane										Others	Group Total	Gross Sown	Net Irrigated
							Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28																							
1.	Seml.	13053	13.8	-	-	716	0.8	1086	1.1	14855	15.7	-	-	-	-	-	-	-	-	-	464	0.5	464	0.5	95872	101.2	1987	2.1																						
2.	Dasada.	1992	1.8	-	-	171	0.2	67	0.1	2280	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	528	0.5																						
3.	Virangam.	5667	4.0	-	-	219	0.2	617	0.4	6603	4.6	-	-	-	-	-	-	-	-	-	350	0.3	350	0.3	133521	101.2	5894	4.2																						
4.	Malta. (M)	395	0.8	-	-	162	0.3	51	0.1	608	1.2	-	-	-	-	-	-	-	-	-	25	0.1	25	0.1	50292	101.1	1108	2.2																						
5.	Halvad.	1721	2.2	-	-	7	-	62	0.1	1790	2.3	-	-	-	-	-	-	-	-	11	2	13	81619	102.2	10310	12.9																								
6.	Dhruvachura.	851	1.0	-	-	57	-	193	0.2	1101	1.2	-	-	-	-	-	-	-	-	-	-	-	-	90851	101.5	5224	5.8																							
7.	Lakhtar.	861	1.5	-	-	24	0.1	9	-	894	1.6	-	-	-	-	-	-	-	-	-	90	0.1	90	0.1	57379	100.1	566	1.0																						
8.	Sanand.	6326	10.0	-	-	25	0.1	260	0.4	6611	10.5	-	-	33	0.1	-	-	-	-	-	978	1.5	1011	1.6	63904	101.1	13078	20.7																						
9.	Limbedi	10837	9.2	-	-	1443	1.2	149	0.1	12429	10.5	-	-	-	-	-	-	-	-	7	3	10	120382	101.3	4576	3.9																								
10.	Dhodka.	37760	29.6	-	-	612	0.5	1603	1.2	39975	31.3	26	-	194	0.1	-	-	-	-	210	2	591	0.5	1021	0.8	133573	104.7	21698	170																					
11.	Dharambuka.	30035	18.2	-	-	1470	0.9	2896	1.8	34401	20.9	-	-	-	-	-	-	-	-	31	30	61	166065	100.7	6755	4.1																								
12.	Khemhat.	18925	27.9	89	0.1	234	0.3	531	0.8	19779	29.1	21	11	-	-	-	-	-	-	34	0.1	814	1.2	880	1.3	70824	104.3	12985	19.1																					
Zone.	10702	11.1	8	-	428	0.5	627	0.6	1.7	65	12.2	4	-	10	-	-	-	-	-	24	-	279	0.3	327	0.3	98613	101.8	7039	7.3																					

FESTIVAL SOIL - GROUNDWATER ZONE

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71)

Area in hectares
% of NSA

Group 'A' short duration Kharif Crop ;	Group 'B' Long duration Kharif Crop ;
Group 'C' Rabi Crop	Group 'D' Other Crops.

Group 'A'																											Group 'B'	
Sr. Taluka No.	HSA	Paddy Area %	Sajri Area %	Kulise Area %	Jowar Area %	Groundnut Area %	Others Area %	Groundtotal Area %	Cotton Area %	Tobacco Area %	Tur Area %	Others Area %	Groundtotal Area %															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
1.	Kull	55719	1	-	16494	29.6	1	-	7465	13.4	5424	9.7	6076	10.9	35461	63.6	19589	35.2	-	-	-	6	-	-	19595	35.2		
2.	Medhman	61695	9	-	12717	20.6	-	-	10126	16.4	6357	10.3	1542	2.5	30751	49.8	31529	51.1	-	-	-	4	-	-	31535	51.1		
3.	Sayla	55082	2	-	18775	34.1	-	-	9884	17.9	5955	10.8	6271	11.4	40887	74.2	12174	22.1	-	-	-	24	0.1	12198	22.2			
4.	Jodia	53545	11	-	12753	23.9	-	-	13530	25.0	12608	23.7	1896	3.5	40598	76.0	6983	13.1	-	-	-	147	0.3	7130	13.4			
5.	Morvi	122992	37	0.1	28327	30.0	11	-	24376	19.8	35117	26.9	1075	0.9	86943	70.7	35314	28.7	-	-	-	39	-	35353	28.7			
6.	Vanhaner	54432	69	0.1	16627	30.5	15	-	9666	17.8	18371	35.8	2145	3.9	46893	86.1	5882	10.8	-	-	-	38	0.1	5920	10.9			
7.	Jasdan	86012	239	0.3	19100	22.2	29	-	11539	13.4	38923	45.3	1515	1.7	71344	82.9	6166	9.5	-	-	-	12	-	8178	9.5			
8.	Gedhoda	62804	59	0.1	21141	33.7	8	-	9744	15.5	15887	25.3	2266	3.6	49105	78.2	9404	15.0	-	10	-	975	1.5	10387	16.5			
9.	Lethi	51863	96	0.2	11796	22.7	-	-	8380	16.5	24369	47.0	1163	2.3	46004	88.7	4135	8.0	-	-	-	799	1.4	4994	9.4			
10.	Umarsala	26754	32	0.1	10289	38.4	-	-	4165	15.6	5914	22.1	886	3.3	21284	79.5	4481	16.7	-	-	-	361	1.4	4842	18.1			
11.	Botal	52964	24	0.1	19667	37.1	11	-	8628	16.3	9917	18.7	4645	8.8	42892	81.0	7487	14.1	-	-	-	326	0.6	7815	14.7			
12.	Lila	31945	14	0.1	11045	34.6	8	-	5444	17.0	8664	27.1	806	2.5	25981	81.3	4403	13.8	-	-	-	275	0.8	4678	14.6			
13.	Gardhar	39025	35	0.1	12787	32.8	4	-	6414	16.4	15857	40.6	726	1.9	35823	91.8	2623	6.7	-	-	-	281	0.6	4552	7.5			
14.	Bulhor	46307	101	0.2	15156	32.8	1	-	7842	16.9	10338	22.3	1482	3.2	34922	75.4	4286	9.2	-	-	-	286	0.6	4552	7.5			
15.	Paltana	42022	64	0.1	14271	34.0	10	-	5867	14.0	12307	29.3	1266	3.0	33785	80.4	2896	6.9	-	-	-	188	0.4	3064	7.5			
16.	Bhogha	30041	66	0.2	8731	29.1	-	-	6381	21.2	9794	32.6	1402	4.7	26374	87.8	46	0.2	-	-	-	219	0.7	265	0.8			
17.	Bhavanagar	35293	41	0.1	8095	22.9	-	-	14617	41.4	4957	14.1	920	2.6	28630	81.1	1395	3.9	-	-	1	-	-	1425	4.0			
18.	Vallabhipur	39996	6	-	7749	19.4	1	-	17308	43.3	935	2.3	2377	5.9	28376	70.9	4923	12.3	-	-	-	191	0.5	5114	12.8			
19.	Upleta	35058	348	0.6	4659	8.5	24	0.1	1666	3.0	35472	64.4	1421	2.6	43590	79.2	9440	17.1	-	-	-	5	-	9445	17.1			
20.	Dhoraji	30227	444	1.2	2342	6.1	290	0.7	743	1.9	29005	75.9	712	1.9	33536	87.7	3916	10.3	-	-	-	9	-	3925	10.3			
21.	Katiyama	35931	142	0.4	3244	9.1	2	-	8610	24.0	16205	45.2	62	0.2	28265	78.9	5551	15.5	-	-	-	67	0.2	5618	15.7			
22.	Kanawader	48150	364	0.8	2283	4.7	37	-	2773	5.8	32305	67.5	2534	5.3	40496	84.1	5251	10.8	1	-	-	20	0.1	5233	10.9			
23.	Vanthalli	31120	572	1.8	1907	6.1	106	0.3	1274	4.1	20145	64.7	32	0.1	24034	77.2	3222	10.4	-	-	-	29	0.1	3251	10.4			
24.	Jungadh	37492	903	5.2	3059	8.2	292	0.8	1514	4.0	24761	66.0	799	2.0	31288	83.5	4595	12.3	-	-	-	9	-	4604	12.3			
25.	Keshod	40173	527	1.3	966	2.4	35	0.1	1179	2.9	32889	81.9	3512	8.3	39908	96.8	1458	3.6	-	-	-	44	0.1	1502	3.7			
26.	Kandhari	23420	328	1.4	526	2.2	99	0.4	13	0.1	13331	77.8	749	3.2	19946	85.2	914	3.9	-	-	-	10	-	924	3.9			
27.	Vlaevader	50154	1171	2.3	4762	9.5	125	0.3	2952	5.9	35433	70.6	356	0.7	44799	89.3	2097	4.2	-	-	-	151	0.3	2248	4.5			
28.	Tambhalia	74192	94	0.1	14077	19.0	10	-	15471	20.9	42785	57.6	712	1.0	17149	98.6	597	0.8	-	-	-	716	0.9	1313	1.7			
29.	Lalpur	59699	115	0.2	9828	16.5	6	-	14553	24.4	33300	55.8	704	1.2	39306	98.1	367	0.6	-	-	-	128	0.2	495	0.8			
30.	Jamnagar	64729	245	0.4	9826	15.2	250	0.4	23001	35.5	24852	38.4	4888	7.5	63062	97.4	283	0.4	-	-	-	69	0.1	332	0.5			

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Sr. No.	Taluka	MSA	Group 'A'										Group 'B'															
			Paddy Area	Rajri Area	Kelge Area	Jowar Area	Groundnut Area	Others Area	Group total Area	Cotton Area	Tobacco Area	Rur Area	Others Area	Group total Area														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
31.	Darol	39106	32	0.1	6898	17.7	2	-	11265	28.8	18001	46.0	1193	3.0	37391	95.6	1030	2.6	-	-	-	-	-	9	0.1	1039	2.7	
32.	Banwad	43366	203	0.5	4416	10.2	-	-	3261	7.5	34037	78.5	489	1.1	42406	97.8	827	1.9	-	-	-	-	-	39	0.1	866	2.0	
33.	Jambhodpur	59786	328	0.6	5975	10.0	205	0.3	2106	3.5	45954	76.9	430	0.7	54998	92.0	2534	4.2	-	-	-	-	-	84	0.2	2618	4.4	
34.	Kalawad	79650	376	0.5	11488	14.4	68	0.1	7601	9.5	56936	71.5	797	1.0	77266	97.0	1128	1.4	-	-	-	-	-	30	0.1	1158	1.5	
35.	Paddhari	42865	88	0.2	7583	17.7	16	-	7526	17.6	25524	59.6	275	0.6	41012	95.7	1563	3.6	-	-	-	-	-	35	0.1	1598	3.7	
36.	Jodhika	23940	248	1.0	3122	13.1	35	0.1	3329	13.9	15825	66.1	186	0.8	22745	95.0	529	2.2	-	-	-	-	-	20	0.1	549	2.3	
37.	Bajkot	61539	253	0.4	10275	16.7	177	0.3	11194	18.2	33443	54.3	1115	1.8	58457	91.7	2382	4.8	-	-	-	-	-	102	0.2	3084	5.0	
38.	Chotilla	54064	17	-	21674	40.1	5	-	6061	11.2	9283	17.2	6768	2.5	43808	81.0	3532	6.5	-	-	-	-	-	28	0.1	12198	22.2	
39.	Kotda-Sargani	31515	382	1.2	2446	7.8	19	0.1	3793	12.0	20358	65.2	219	0.7	27417	87.0	2230	7.1	-	-	-	-	-	54	0.1	2284	7.2	
40.	Babra	57354	199	0.3	6465	11.3	103	0.2	9680	16.9	33193	57.9	408	0.7	50048	87.3	3889	7.0	-	-	-	-	-	86	0.1	4075	7.1	
41.	Arweli	68990	271	0.4	16607	24.1	305	0.4	8731	12.6	37157	53.9	1414	2.1	64485	93.5	2308	3.3	-	-	-	-	-	123	0.2	2431	3.5	
42.	Dharl	69707	450	0.6	16737	24.0	362	0.5	6705	9.6	32206	46.2	2404	3.5	58864	84.4	1363	2.0	2	-	-	-	-	41	-	1406	2.0	
43.	Kundla	83401	99	0.1	24918	29.9	50	0.1	6491	7.8	36123	43.3	3459	4.1	71140	85.3	5194	6.2	1	-	-	-	-	28	0.1	5223	6.3	
44.	Kumbha	25560	41	0.2	6294	24.6	15	0.1	1120	4.4	11792	46.2	614	2.4	19876	77.9	731	2.9	1	-	-	-	-	15	-	747	2.9	
45.	Kandorna	38738	413	1.1	3250	8.4	19	-	2095	5.3	30203	78.0	189	0.5	36169	93.3	1914	5.0	-	-	-	-	-	9	-	1923	5.0	
46.	Gondal	83304	1026	1.2	6485	7.8	52	0.1	4048	4.9	60085	72.1	2729	3.3	74425	89.4	6192	7.4	-	-	-	-	-	91	0.1	6283	7.5	
47.	Jetpur	51222	952	1.9	5871	11.5	116	0.2	2867	5.6	37243	72.7	668	1.3	47717	93.2	2762	5.2	-	-	-	-	-	92	0.1	2834	5.5	
48.	Kankwar	70055	898	1.3	7203	10.3	143	0.2	7156	10.2	50676	72.4	866	1.2	66942	95.6	2387	3.4	-	-	1	-	-	7	-	2395	3.4	
49.	Bhosen	34547	602	1.7	3838	11.1	133	0.4	2093	6.1	25777	74.6	338	1.0	32781	94.9	760	2.2	-	-	3	-	-	11	0.1	774	2.3	
50.	Talala	23038	388	1.7	2061	8.9	10	-	770	3.3	20423	88.6	290	1.3	23944	103.8	577	2.5	-	-	-	-	-	108	0.5	685	3.0	
Zone .			50966	269	0.5	9932	19.5	64	0.1	7161	14.2	24394	47.9	1591	3.1	43511	85.3	4958	9.8	-	-	-	-	-	127	0.2	5085	10.0

Airframe 2.00 Cont'd

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Sr. No.	Plant	Group 'C'										Group 'D'													
		Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield						
1.	1044	1.9	-	421	0.7	189	0.3	1654	2.9	-	-	-	-	-	-	1	-	1319	2.4	1320	2.4	58030	104.1	6122	11.0
2.	794	1.3	-	125	0.2	106	0.2	1025	1.7	-	-	-	-	-	-	3	-	3	-	6	-	65315	102.6	4916	8.0
3.	843	1.5	-	12	-	146	0.3	1001	1.8	-	-	-	-	-	-	4	-	2135	3.9	2139	3.9	56225	102.1	2485	4.5
4.	6507	12.2	-	291	0.5	431	0.8	7239	13.5	5	-	-	-	-	-	408	0.8	3	-	421	0.8	55378	103.8	2525	4.7
5.	2705	2.2	-	188	0.2	410	0.3	3303	2.7	-	-	-	-	-	-	360	0.3	46	-	406	0.3	126005	102.4	8299	6.7
6.	2643	4.9	-	45	0.1	787	1.4	3475	6.4	-	-	-	-	-	-	154	0.3	52	0.1	206	0.4	56494	103.8	9038	16.6
7.	5267	6.2	-	10	-	359	0.4	5636	6.6	-	-	-	-	-	-	497	0.6	4525	5.2	5012	5.8	90170	104.8	9853	11.5
8.	1843	3.0	-	10	-	337	0.5	2190	3.5	-	-	-	-	-	-	142	0.2	1369	3.2	2111	3.4	65793	101.6	7327	11.7
9.	1549	3.0	-	28	0.1	319	0.6	1896	3.7	-	-	-	-	-	-	283	0.6	330	0.6	613	1.2	53407	103.0	3644	7.0
10.	2027	7.6	-	25	0.1	493	1.8	2545	9.5	16	0.1	-	-	-	-	343	1.3	93	0.3	459	1.7	29118	108.8	6665	24.9
11.	1625	3.1	-	317	0.6	487	0.9	2429	4.6	-	-	-	-	-	-	29	0.1	1034	1.9	1063	2.0	54199	102.3	7325	13.8
12.	637	2.0	-	16	0.1	69	0.2	722	2.3	-	-	-	-	-	-	193	0.6	916	2.9	1107	3.5	32488	101.7	1146	3.6
13.	206	0.5	1	1	-	95	0.3	313	0.8	-	-	-	-	-	-	288	0.7	486	1.3	782	2.0	3768	101.9	896	2.3
14.	1044	2.3	-	7	-	1069	2.3	2120	4.6	28	0.1	-	-	-	-	439	1.0	5063	10.9	5585	12.1	7179	101.9	3113	6.7
15.	779	1.8	-	3	-	365	0.9	1147	2.7	3	-	-	-	-	-	787	1.8	4221	10.0	4978	11.8	42974	102.2	2888	6.9
16.	1017	3.4	-	105	0.3	892	3.0	2014	6.7	33	0.1	-	-	-	-	36	0.1	3388	11.3	3479	11.6	32132	107.0	2135	7.1
17.	1840	5.2	1	2	-	552	1.6	2395	6.8	17	0.1	-	-	-	-	9	-	3908	11.1	4016	11.4	36466	103.3	2734	7.8
18.	6630	16.7	-	29	0.1	300	0.8	7019	17.6	-	-	-	-	-	-	63	0.1	148	0.4	218	0.5	40727	101.8	5087	12.7
19.	2607	4.7	5	5	-	927	1.7	3544	6.4	-	-	-	-	-	-	1676	3.1	10	-	1886	3.1	38265	105.8	16751	30.4
20.	3349	8.8	15	25	0.1	826	1.6	4015	10.5	-	-	-	-	-	-	663	1.7	171	0.5	834	2.2	42310	110.7	10616	27.8
21.	395	1.7	117	0.3	296	0.8	119	0.3	1117	3.1	-	-	-	-	-	117	0.3	1597	4.5	1714	4.8	36714	102.5	3089	8.6
22.	1158	2.5	20	8	-	467	1.0	1693	3.5	1	-	-	-	-	-	325	0.7	2158	4.5	2486	5.2	49308	103.7	5152	10.7
23.	2148	6.8	-	13	-	467	1.5	2598	8.3	-	-	-	-	-	-	307	1.0	3193	10.3	3774	12.2	33657	108.1	5102	16.4
24.	2888	7.7	1	34	0.1	790	2.1	3713	9.9	20	-	-	-	-	-	142	0.4	1479	3.9	1703	4.5	41308	110.2	8574	22.8
25.	3126	7.8	6	41	0.1	788	2.0	3961	9.9	7	-	-	-	-	-	176	0.4	2390	6.0	2635	6.6	47006	117.0	5475	15.6
26.	2712	11.6	4	12	-	392	1.7	3120	13.3	-	-	-	-	-	-	79	0.4	2697	11.5	3971	8.0	54505	108.7	6805	13.6
27.	2398	6.0	1	27	-	461	0.9	3487	6.9	-	-	-	-	-	-	914	1.8	3030	6.1	283	0.4	73308	106.9	5924	8.0
28.	2298	3.1	-	41	0.1	2224	3.0	4563	6.2	5	-	-	-	-	-	227	0.3	49	0.1	415	0.7	64085	107.3	4964	8.3
29.	1395	2.3	-	57	0.1	3106	5.3	4558	7.7	18	-	-	-	-	-	316	0.5	95	0.2	344	0.5	70393	108.7	8889	13.7
30.	3197	4.9	-	104	0.2	3334	5.2	6635	10.3	9	-	-	-	-	-	387	0.5	8	-	-	-	-	-	-	-

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Annexure 2.09 Litteral Soil - Cotton / Dry Wheat Zone.

Area under crop Intakukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares.
% of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop;
Group C Rabi crop; Group D other crops.

Group 'A'

Group 'B'

Sr. No.	Intakukas	NSA	Paddy	Bajri	Maize	Jowar	Groundnut	Others	Group Total	Cotton	Tobacco	Jir	Others	Group Total.													
1.	2.	3.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
1.	Jambhast.	65089	2120	3.3	3601	5.5	4	-	4789	7.4	2	-	9693	14.9	20209	31.1	41213	63.3	56	0.1	890	1.4	74	0.1	42233	64.9	
2.	Vagra.	52303	68	0.1	513	1.0	1	-	7663	14.7	3	-	2676	5.1	10924	20.9	30289	57.9	8	-	107	0.2	48	0.1	30452	58.2	
3.	Bansd.	24733	328	1.3	229	0.9	-	-	4867	19.7	7	88	3.1	245	1.0	6427	26.0	14162	57.3	5	-	229	1.0	179	0.7	14575	59.0
4.	Qupad.	44369	2069	4.7	574	1.3	49	0.1	10462	23.6	2401	5.4	543	1.2	16098	36.3	18041	40.7	4	-	1270	2.9	89	0.2	19404	43.8	
Zone.	46624	1146	2.5	1229	2.6	14	-	6945	14.9	791	1.7	3289	7.1	13414	28.8	25926	55.7	18	-	624	1.3	98	0.2	26666	57.2		

Group 'C'

Group 'D'

Sr. No.	Intakukas	Wheat	Waj	Gram	Others	Group Total	Banana	Mango	Coconut	Sugarcane	Others	Group Total	Gross Zone	Net Irrigated Area													
1.	2.	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1.	3503	5.4	20	-	79	0.1	221	0.4	3823	5.9	23	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	
2.	5546	10.6	31	0.1	45	0.1	4610	8.8	10232	19.6	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-		
3.	1081	4.4	60	0.2	34	0.1	136	0.6	1311	5.3	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-		
4.	2171	4.9	256	0.6	148	0.3	707	1.6	3282	7.4	203	0.4	31	0.1	-	-	5	-	6308	14.2	6647	14.7	46331	102.2	9785	22.1	
Zone.	3075	6.6	92	0.2	76	0.2	1419	10.0	4662	10.0	57	0.1	10	-	-	-	1	-	2523	5.4	2591	5.5	47334	101.5	3374	7.2	

Annexure 2.10 Litteral Soil - Paddy - Wal - Zone.

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares
% of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop;
Group C Rabi crop Group D other crops.

Group 'A'		Group 'B'																												
Sr. Talukas	NSA	Paddy Area	Rajli Area	Maize Area	Jowar Area	Groundnut Area	Others Area	Group Total	Cotton Area	Tobacco Area	Tur Area	Others Area	Group Total																	
No.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27				
1. Charyast																														
		36015	1286	3.6	712	2.0	9	-	11236	31.2	2036	5.7	803	2.2	16082	44.7	5409	15.0	2	-	1372	3.8	243	0.7	7026	19.6				
2. Navarli																														
		45840	8778	19.1	3	-	-	-	9051	19.7	1384	3.0	790	1.7	20006	43.6	9433	20.6	4	-	661	1.4	477	1.1	10575	23.1				
3. Garhvel.																														
		17486	4752	27.2	-	-	-	8	-	1838	10.5	82	0.5	149	0.9	6822	39.1	1057	6.2	1	-	150	0.9	198	1.1	1436	8.2			
4. Valand.																														
		3769	10133	26.9	-	-	-	-	-	35	0.1	-	-	1191	3.2	11359	30.2	38	0.1	-	-	169	0.4	283	0.8	490	1.3			
Zone.																														
		34260	6237	18.2	179	0.5	4	-	5540	16.2	875	2.6	734	2.1	13569	39.6	3992	11.6	2	-	598	1.7	300	0.9	4882	14.2				

Group 'C'

Group 'D'

Sr. Taluka		Wheat Area		Wol Area		Gram Area		Olive Area		Group Total		Banana Area		Mango Area		Cocnut Area		Sugarcane Area		Others Area		Group Total		Gross Area		Net Irrigated Area	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.
1.																											
		765	2.1	496	1.4	37	0.1	1518	4.2	2816	7.8	2167	6.0	227	0.6	-	-	134	0.4	8775	24.4	11303	31.4	37287	103.4	9622	26.7
2.																											
		998	2.2	4275	9.3	72	0.2	569	1.2	5914	12.9	1044	2.3	793	1.3	-	-	789	1.7	12939	28.2	15970	34.0	52065	113.6	9870	21.8
3.																											
		384	2.2	1440	8.3	64	0.4	306	1.7	2194	12.6	257	1.5	1528	8.7	2	-	566	3.2	7211	41.3	9564	54.7	20023	114.6	376	2.2
4.																											
		242	0.6	3902	10.4	45	0.1	360	1.0	4549	12.1	16	-	4345	11.3	5	-	227	0.6	21575	57.2	28068	69.1	42465	112.7	1931	5.1
Zone.																											
		567	1.7	2528	7.4	55	0.2	688	2.0	3868	11.3	871	2.5	1899	5.0	2	-	429	1.3	12625	36.8	16626	46.6	37945	110.8	5475	16.0

Area under crop in talukas and percentage NSA (Average 1968-69 to 1970-71).

Area in hectares
- % of NSA

Group A short duration Kharif crop; Group B long duration Kharif crop; Group C Rabi crop; Group D other crops.

Group 1																												
Sr. No.	Talukas	MSA	Paddy	Bajri	Maize	Jowar	Groundnut	Others	Group Total	Cotton	Tobacco	Mtr	Other rd	Group Total.														
1.	2.	3.	4.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
=====																												
1.	Ohmandal	25151	1	-	14415	57.3	-	-	8341	33.2	762	3.0	880	3.5	21399	97.0	39	0.1	-	-	-	-	-	518	2.1	597	2.2	
2.	Kalyanpur.	82944	442	0.5	22625	27.3	60	0.1	15212	21.9	28635	34.8	1832	2.2	73006	86.8	8897	10.9	-	-	-	-	-	2663	3.2	11660	14.2	
3.	P. Chander.	62065	476	0.8	6490	10.6	54	0.1	11367	18.3	18618	30.3	7778	12.5	44933	72.5	10483	16.9	-	-	-	-	-	1170	1.9	1.653	18.3	
4.	Ramnav	24647	147	0.6	4121	16.8	19	0.1	2161	8.8	11380	46.4	3089	12.6	20917	85.2	2805	11.4	-	-	-	-	-	35	0.1	2840	11.5	
5.	Mang'd (Jm.)	39430	361	0.9	2540	6.4	4	-	4771	12.1	21548	54.7		7.6	32210	81.7	2575	6.5	-	-	-	-	-	63	0.2	2628	6.7	
6.	Mellie. (Jm)	33694	413	1.2	4451	13.2	33	0.1	1957	5.8	28912	74.0	67	0.2	31833	94.5	184	0.5	-	-	-	-	-	32	0.1	216	0.6	
7.	Patan (Ver- awl)	44577	1178	2.7	13742	30.8	12	-	5762	12.9	22226	50.0	430	1.0	43420	57.4	46	0.1	-	-	-	-	-	111	0.3	187	0.4	
8.	Kodinar.	34920	802	2.3	12706	36.4	34	0.1	2055	5.9	10636	30.8	1541	4.4	27776	79.5	770	2.8	-	-	-	-	-	110	0.3	880	2.5	
9.	Una.	64750	291	0.4	29184	45.1	47	0.1	4469	6.9	19506	30.1	3157	4.9	56654	87.5	2737	4.2	2	-	-	-	-	278	0.4	3017	4.6	
10.	Talsaja.	63188	498	0.9	18692	35.1	4	-	5150	9.7	23961	45.1	2453	4.6	50758	95.4	124	0.2	-	-	-	-	-	217	0.4	345	0.6	
11.	Jafarabad.	25396	35	0.2	13057	51.4	23	0.1	3028	11.9	2543	10.0	5440	21.4	24126	95.0	237	1.0	-	-	-	-	-	52	0.1	289	1.2	
12.	Imjula.	61062	149	0.2	25863	42.4	71	0.1	6808	11.2	19431	31.8	5691	9.3	58013	95.0	539	0.9	2	-	-	-	-	38	0.1	615	1.0	
13.	Mahwa.	88528	461	0.2	30312	34.2	75	0.1	6354	7.2	39820	45.0	4630	5.2	81652	92.2	1007	1.1	1	-	-	-	-	122	0.1	1130	1.2	
=====																												
Zone.	49249	404	0.8	15247	31.0	34	0.1	6157	12.6	18804	38.2	3074	6.2	43750	86.9	2350	4.2	-	-	-	-	-	3	-	415	0.8	2768	5.6
=====																												

Group 'C'

Sr. No.	Cultures	Wheat	Wet	Gram	Others	Group Total	Banana										Mango										Coconut										Sugarcane	Others	Group Total	Gross	Net	Irrigated Area.
							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28								
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.															
1.	Orchard	185	0.7	-	-	15	0.1	150	0.6	350	1.4	1	-	2	-	-	-	-	-	15	0.1	18	0.1	25324	100.7	887	2.3															
2.	Kalyanpur	1766	2.1	-	-	26	0.1	464	0.6	2286	2.8	1	-	2	-	1	-	178	0.2	179	0.2	361	0.4	86313	104.1	5687	6.8															
3.	Pachmar.	3132	5.1	131	0.2	2853	4.6	1635	2.6	7751	12.5	23	-	94	0.1	55	0.1	41	0.1	1336	2.2	1549	2.5	68936	106.3	11087	17.8															
4.	Banswari.	952	3.5	1	-	-	-	271	1.1	1124	4.6	-	-	52	0.2	-	-	94	0.4	837	3.4	983	4.0	25864	105.3	3002	12.2															
5.	Mangrui. (Jnd.)	2329	5.9	142	0.4	318	0.8	689	1.7	3478	8.8	596	1.5	1236	3.1	406	1.0	155	0.4	1578	4.0	3871	10.0	42387	107.2	9876	25.0															
6.	Nalla. (Jnd)	2176	6.5	4	-	2	-	608	1.8	2730	8.3	662	2.0	186	0.5	35	0.1	154	0.5	2231	6.6	3288	9.7	38127	113.1	6037	17.9															
7.	Patan. (Vesuvai)	1685	3.9	26	-	5	-	1370	3.1	3076	6.9	936	2.1	29	0.1	194	0.4	2004	4.5	627	1.4	3790	8.5	50443	124.2	8034	18.0															
8.	Kollur.	1676	4.8	79	0.3	4	-	497	1.4	2256	6.5	32	0.1	115	0.3	-	-	5222	15.0	1071	3.1	6440	18.5	37358	107.0	8107	23.2															
9.	Uda.	3510	5.4	5	-	28	0.1	650	1.0	4203	6.5	31	0.1	139	0.2	138	0.2	3761	5.8	1589	2.4	5628	8.7	89502	107.3	10477	16.2															
10.	Malaja.	4380	8.3	-	-	59	0.1	3244	6.1	7893	14.5	60	0.1	50	0.1	337	0.6	387	0.7	1074	2.1	1908	3.6	60704	114.1	9996	18.8															
11.	Jaffrabad.	477	1.9	1	-	43	0.2	39	0.1	560	2.2	-	-	7	-	3	-	29	0.1	935	3.7	974	3.8	23949	102.3	770	3.0															
12.	Nalla.	1431	2.3	-	-	1	-	172	0.3	1604	2.6	6	-	3	-	2	-	100	0.2	2584	4.2	26	95	4.4	639	103.1	2175	3.6														
13.	Nalla.	2806	3.2	-	-	29	-	1666	1.9	4501	5.1	25	-	236	0.3	314	0.4	197	-	4907	5.5	5679	6.4	92862	104.9	5999	6.7															
Grand.		2032	4.1	30	0.1	260	0.5	884	1.2	3206	6.5	183	0.4	166	0.3	114	0.2	948	1.9	1456	3.0	2866	5.8	52830	106.8	6285	12.8															

